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**An exploration of the relationship between self-compassion,
alexithymia and emotion regulation in a clinical population.**

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**THE UNIVERSITY
of EDINBURGH**

Doctorate in Clinical Psychology,

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THESIS ABSTRACT

Background: Negative forms of self-relating such as self-criticism and self-judgement are known to contribute to poor mental health across diagnoses including eating disorders. Negative self-relating can lead to avoidance or suppression of emotions, and poor attachment relationships can lead to deficits in self-reassuring abilities. Self-compassion is a construct which is gaining attention in clinical research as a potentially important and healthy way of relating to the self in the face of painful or difficult experiences.

Systematic review: A systematic review of the literature eating disorders and self-compassion suggested that lower levels of self-compassion are related to worse eating disorder pathology, particularly emotional eating, and body image dissatisfaction. Findings suggest that self-compassion training may have a role in multimodal prevention and treatment approaches for eating disorders, disordered eating and body image problems, particularly bulimia or binge eating disorders. The role in restrictive eating behaviour is less clear and warrants further research.

Aims: This study was a cross-sectional study design with a purpose of conducting Confirmatory factor analysis on the Self-Compassion Scale – Short Form, and correlational analysis of the relationship between self-compassion, (as measured on SCS-SF) with emotion regulation difficulties, alexithymia and distress.

Participants and procedure: 297 people referred to an adult clinical psychology service in Scotland completed the SCS-SF and measures of emotion regulation, alexithymia and distress.

Results: CFAs did not support six factor or hierarchical models for SCS-SF. Instead a two-factor model was supported. Correlation analysis indicated that self-compassion is inversely associated with difficulties in emotion regulation, alexithymia and distress. Hierarchical regression analyses indicated that self-compassion was a unique predictor of distress.

Implications: Further clarification of the construct of self-compassion, its role in psychopathology and how it should be measured is required. It is important that as research involving self-compassion and its role in mental health services progresses, that psychometrically valid measures are employed. Furthermore, correlation and regression analyses suggest convergent validity for the construct of self-compassion, and support theoretical links with emotion regulation.

Conclusions: Self-compassion appears to be an important variable in eating disorders pathology and appears to be linked with adaptive emotion regulation in clinical populations. However results suggest longitudinal research and a more robust measure is required for use in clinical populations, especially if information about facets of the construct are to be understood.

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D. CLIN. PSYCHOL. DECLARATION OF OWN WORK

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CONTENTS

Thesis Abstract	2
D. Clin. Psychol. Declaration of own work	3
Acknowledgements	4
List of Tables, Figures and Appendices	6
Journal Article 1.	7
The relationship between self-compassion and eating disorders: A systematic review	7
1.1 Abstract	8
1.2 Introduction	9
1.2 Method	11
1.2.1 Literature Search Strategy	13
1.3 Results	16
1.3.1 Study Characteristics	16
1.3.2. Methodological Quality Assessment	21
1.3.3 Methodological quality and Risk of Bias	24
1.3.4 Synthesis of Results	25
1.5 Discussion	30
1.6 Conclusions	35
1.7 References	36
Journal Article 2	49
Confirmatory factor analysis of Self-Compassion Scale (Short Form), and the association with alexithymia and emotion regulation.	49
2.1 Abstract	50
2.2 Introduction	51
2.3 Method	60
2.3.1 Study Design	60
2.3.2 Procedure	61
2.3.3 Measures	63
2.3.4 Statistical Analysis	65
2.5 Results	67
2.5.1 Confirmatory Factor Analyses	67
2.5.2 Correlation and Regression analyses	73
2.6 Discussion	80
2.7 Conclusions	87
2.8 References	88
Full Thesis References BPS Format	128

LIST OF TABLES, FIGURES AND APPENDICES**Tables**

Table 1.1. Summary of study characteristics and outcomes	17
Table 1.2. Evaluation of Methodological quality using the QualSyst tool.	23
Table 2.1: Demographic characteristics of participants	62
Table 2.2: Pearson's correlations for SCS-SF items.	69
Table 2.3: Pearson's Inter-correlations for SCS-SF subscale scores.	70
Table 2.4: Internal consistency of SCS-SF subscales and total score.	70
Table 2.5: CFAs of SCS-SF using robust weighted least squares (WLSMV)	72
Table 2.6: Pearson's Correlations of measures	75
Table: 2.7.1 Regression Analysis of predictors of distress	76
Table 2.7.2 Hierarchical regression model of predictors of distress (HADS)	77
Table 2.7.3 Hierarchical regression model of predictors of distress (CORE)	78

Figures

Figure 1. Flow Diagram of the review process	15
Figure 2. Depiction of Higher-order factor model of SCS-SF	66

Appendices

Appendix A: Full-text Studies excluded from review	98
Appendix B: Journal Guidelines for Authors for IJED	99
Appendix A.1 REC Approval	98
Appendix A.2 REC Minor amendment	110
Appendix A.3 REC amendments	112
Appendix B.1 NHS R&D Approval	114
Appendix B.2 Letter to GP	116
Appendix C.1 Study Introduction Letter	117
Appendix C.2 Participant Information Sheet	118
Appendix C.3 Demographics and Consent	120
Appendix C.4: Permission to use TAS-20	121
Appendix D: Mplus Syntax Higherorder	121
Appendix E: Guideline for Authors for Journal Submission	123

JOURNAL ARTICLE 1.

The relationship between self-compassion and eating disorders: A systematic review.

Formatted for submission to the International Journal of Eating Disorders (Author guidelines are presented in Appendix 1.B)

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1.1 ABSTRACT

Objective: Eating disorders are commonly associated with personality factors such as perfectionism, self-criticism and emotion regulation difficulties. Self-compassion is a construct concerned with the way people relate to themselves and is gaining empirical support as a variable in mental health. This review aims to explore whether self-compassion is also important in eating disorders. **Method:** A systematic search of the literature was conducted regarding self-compassion and components of eating disorders. Methodological quality of included studies were evaluated and correlates of self-compassion with the eating disorders variables were explored. **Results:** Overall, inverse correlations were found between self-compassion and eating disorder outcome variables suggesting lack of self-compassion may be an important variable in eating disorders pathology. Measurement of eating disorder psychopathology was heterogeneous and there was insufficient research in clinical populations for associations to be generalised to these populations. The majority of studies were cross-sectional. **Discussion:** Preliminary findings from research suggest that self-compassion may be an important variable in eating disorders. Further research using clinical populations with diagnosed eating disorders, exploring global and specific eating disorder pathology, is recommended to establish what role self-compassion may play in the prevention and treatment of eating disorders. Longitudinal research and intervention studies aimed at improving self-compassion in people with are also warranted.

Keywords: eating disorders; disordered eating; body image; self-compassion.

The relationship between self-compassion and eating disorders pathology: a systematic review.

1.2 INTRODUCTION

Eating disorders are complex and multifactorial, involving a combination of physical symptoms and behaviours, psychological attitudes and attributes, resulting in multiple co-morbidities with potentially fatal consequences. The lack of highly effective treatment approaches for eating disorders such as anorexia nervosa, or the more common atypical eating disorders ¹ indicates that further exploration is required before effective prevention and treatment approaches can be recommended ^{2,3}. Core pathology across all eating disorder diagnoses includes over-evaluation of shape or weight and disturbance of eating or weight control behaviour, leading to a clinically significant impact on physical or psychosocial functioning⁴. Young, White western, graduate level educated females are largely affected by eating disorders ⁵.

Eating disorders have been considered, at least in part, to serve as externalized methods of regulating internal distress ^{6,7} with suppression of emotions and difficulty reappraising emotions particularly common across eating disorder subtypes ^{8,9}. Inter and intrapersonal difficulties, such as ‘interpersonal anxiety’ and ‘self-uncertainty’ appear to have a critical role in the aetiology of eating disorders ¹⁰. People with eating disorders are more likely to compare themselves unfavourably to others, and be vigilant to social rank related stimuli ¹¹. Self-criticism and shame are associated with more severe eating disorder pathology ¹². Indeed, self-criticism has been found to be experienced as an internal self-critical voice, more common in people with eating disorders than healthy controls, and also associated with low self-

SELF-COMPASSION AND EATING DISORDERS REVIEW

esteem¹³. Maladaptive perfectionism is another risk factor for eating disorders¹⁰, and is thought to provide not only a sense of control, but prevent negative evaluation from others¹⁴.

Self-compassion is a construct attracting interest in mental health research¹⁵ and is considered to be a healthy way of relating to one's self and responding to difficult emotions¹⁶. Self-compassion has been defined as self-kindness versus self-judgment, a sense of common humanity versus isolation, and mindfulness versus over-identification, in response to painful experiences¹⁷. Gilbert suggests compassion is "a basic kindness, with deep awareness of the suffering of oneself and of other living things, coupled with the wish and effort to relieve it"^{18ppxiii}. In Gilbert's model, which draws on developmental, social, evolutionary and Buddhist psychologies and neurophysiology¹⁹, self-compassion is an evolved bio-psychosocial affect-regulatory system for soothing distress. Physiological pathways, such as the sympathetic nervous system, are activated by 'threats' to both physical and social wellbeing, and receiving compassion from others or oneself activates a physical (parasympathetic nervous system) and psychological sense of 'safety'. Self-compassion may therefore be viewed as a strategy for emotion regulation whereby difficult feelings are not avoided but instead responded to with kindness and compassion¹⁷ and individuals can activate a physiological system of 'self-soothing' when feeling threatened or distressed¹⁹.

A growing body of research suggests that the presence of self-compassion may be a protective factor against the development of mental health problems such as depression, anxiety and stress²⁰ and even illness induced by stress²¹. Importantly, in considering the potential role self-compassion might play in treating or preventing

SELF-COMPASSION AND EATING DISORDERS REVIEW

eating disorders, research has found self-compassion to be positively associated with increased motivation and engagement with positive health behaviours ²². These include smoking cessation ²³, reducing problematic alcohol use ²⁴ and better coping with chronic problems such as pain ^{25,26} and HIV ²⁷. One mechanism for aiding these behaviour changes may be the reduction in negative forms of self-relating such as self-criticism and shame which maintain ‘unhealthy’ behaviours and prevent change, and encouraging an attitude of self-care. Given the growing interest in the association between emotion regulation problems and unhelpful forms of self-relating with eating disorder pathology, self-compassion could be a potentially important variable in eating disorders.

The above literature suggests an intuitive association between low self-compassion and eating disorders psychopathology although there are no published systematic reviews of research supporting this assumption. This study aims to provide a novel systematic review of the growing body of recent literature pertaining to the relationship between self-compassion and eating disorders variables in adults, to establish the strength and direction of any relationship identified. Implications for further research and clinical practice will be discussed.

1.2 METHOD

The PICOS framework (population; intervention; comparators; outcomes; study design) formed the basis of inclusion and exclusion criteria for studies as recommended by the Centre for Reviews and Dissemination guidelines ²⁸. Studies relating to all eating disorder subtypes and disordered eating in clinical, non-clinical and obesity populations were included. In assessing body image attitudes, studies involving participants with psychiatric problems such as Body Dysmorphic Disorder,

SELF-COMPASSION AND EATING DISORDERS REVIEW

or following disfiguring surgery were excluded to avoid potentially confounding variables. Studies focussing on body image in athletes were excluded as concerns about eating, weight and shape may have been related to their sport. Comparators in this review were outcomes on measures of self-reported self-compassion, disordered eating behaviours and cognitions, including body image dissatisfaction. Healthy eating attitudes and behaviours such as intuitive eating, (unrestricted eating in response to internal hunger and satiety signals rather than for emotional or situational reasons)²⁹ were excluded. Variables related to eating disorders such as perfectionism, shame and self-criticism were not explored in this review. Included papers were required to have a validated measure of self-compassion. Modified versions, which had not been validated, were excluded³⁰. A number of studies in the wider self-compassion research have used the ‘positive’ items of the SCS as a ‘proxy’ for self-compassion. Although the SCS author does not recommend using the scale in this way¹⁷, the ‘positive proxy’ met inclusion criteria due to common usage¹⁵. As the SCS is the only measure of self-compassion available, and psychometric properties have been established in non-clinical samples, it was considered an appropriate measure for both clinical and non-clinical samples. Only studies using valid measures of disordered eating, or body image dissatisfaction, total or subscale scores, were included. Only empirical quantitative papers were included. Articles were excluded where the aim was to validate a measure of self-compassion or disordered eating. Purely qualitative studies were excluded. Due to the nascent research in the field of self-compassion, and to reduce publication bias, grey material including academic doctoral and masters theses and dissertations and other

SELF-COMPASSION AND EATING DISORDERS REVIEW

unpublished papers were included. Non-empirical works such as book chapters or reviews were excluded.

1.2.1 Literature Search Strategy

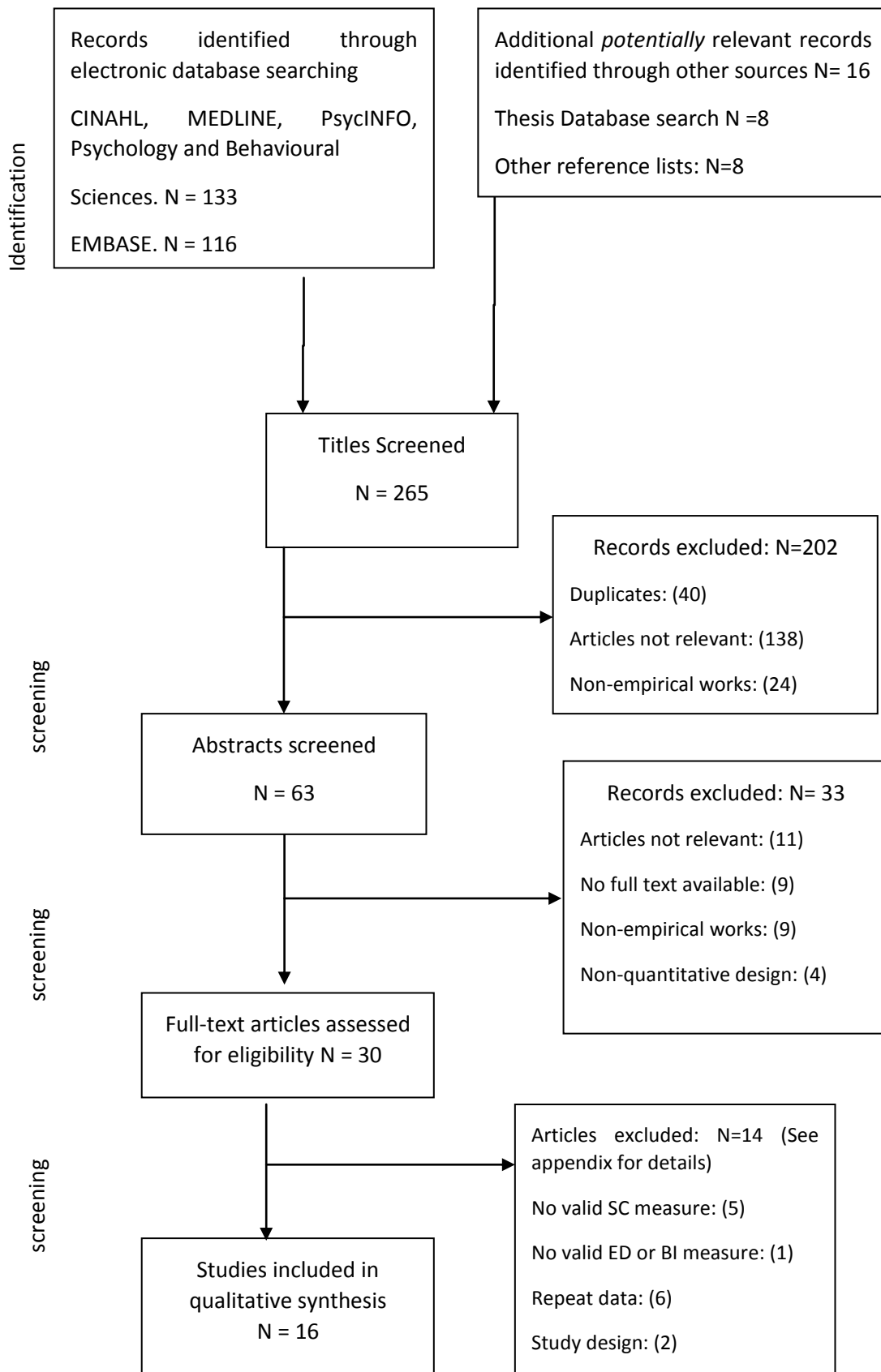
To ensure that a similar review had not previously been carried out, the Database of Abstracts of Reviews of Effects³⁰ was searched for reviews on compassion or self-compassion. No relevant reviews were identified. A search of the OVID electronic database revealed a meta-analysis of the literature relating to the association between psychopathology and self-compassion¹⁵ however this previous review was limited to anxiety, depression and stress.

The following electronic bibliographic databases were searched from inception until June 2014: PsycINFO, MEDLINE, CINAHL Plus (Cumulative Index to Nursing and Allied Health Literature), EMBASE, and Cochrane Central Register of Controlled Trials. Databases were searched for free text using BOOLEAN operators and included searching within full text of articles. Search terms were generated from eating disorders diagnostic terms³² and from a review of constructs measured by eating disorders scales (Eating Disorder Examination-Questionnaire³³, Eating Disorder Inventory³⁴, Dutch Eating Behaviour Questionnaire³⁵) and discussion between authors AR and EN. Terms employed were “compassion*”, OR “self-compassion*” OR “selfcompassion*” AND “eat* disorder*” OR “disordered eat*” OR “anorexi*” OR “bulimi*” OR “EDNOS” OR “atypical eat*” OR “binge” OR “restrain* eat*” OR “emotional eat*” OR “external eat*” OR “body image” OR “body dissatisfaction”.

SELF-COMPASSION AND EATING DISORDERS REVIEW

A search of doctoral theses was conducted via the website www.theses.com and British Library, Electronic Thesis Online Service ³⁶. Where unavailable for direct download, university libraries and authors were emailed resulting in one returned thesis³⁷. Eight authors were contacted by email requesting any unpublished papers. One additional in press paper was returned, and one had already been retrieved. Reference lists of compassion and self-compassion websites were checked. Authors of potentially relevant abstracts were emailed but no papers were returned. Figure 1, based on PRISMA recommendations ³⁸ depicts the process of searching and screening studies for inclusion in the review.

Figure 1. Flow Diagram of the review process



1.3 RESULTS

1.3.1 Study Characteristics

Study characteristics and main findings are summarised in Table 1.1. Sixteen papers met the inclusion criteria. Seven of the 16 studies were unpublished doctoral theses or dissertations ^{37,39-44}, with the remaining 9 being peer reviewed empirical papers ⁴⁵⁻⁵³. One study was a randomised trial ⁴⁵ the rest were cross-sectional observational studies. Three of the cross-sectional studies employed a between groups design ^{41, 46, 48}. Stuart⁴⁴ included a small intervention study, although results of that intervention did not meet inclusion criteria for this review due to lack of validated measure of SC. Albertson's study ⁴⁵ also had an intervention and met inclusion criteria due to the presence of SCS and eating disorders measures.

5 studies recruited participants with diagnosed eating disorders ^{37, 41, 46-48} and one with participants likely to have body image concerns ⁴⁵. 8 studies used primarily American university student samples ^{40, 43-44, 49-53} and 2 studies included treatment-seeking obese adults ⁴¹⁻⁴². 14 studies recruited between 77-100% females with one study recruiting more males than females ⁴². All but one paper reported majority Caucasian ethnicity of participants (> 45%); Pisitsungkaggar's ⁴⁹ study recruited 100% female Thai undergraduate students. One study ⁴⁶ included children, although the mean age of that sample was 24 years (SD 6.89 non-clinical group, SD 7.42 clinical group). The majority of studies (n=10) measured self-compassion using the original 26-item version of the SCS ¹⁷, 3 used the SCS-SF ⁵⁴, and 3 used only the positive items from the SCS in other words those measuring self-kindness, mindfulness and common humanity, and excluding items measuring 'isolation', 'self-judgement' and 'over-identification'.

Table 1.1. Summary of study characteristics and outcomes relating to self-compassion and eating disorders

Author	Sample Size % female Mean Age (SD)	Eating Disorder status	Design	Self- compassion Measure	Eating Disorder Measures	Pearson's Product Moment correlation (<i>r</i>) (Cohen ⁵⁵ effect size)	Other Analyses
Albertson, E. 2014 ⁴⁵	N=228 100% Cont: 36years (1.31) inter: 38y (1.42)	Non clinical Control N=130 intervention=98	RCT	SCS-26	BSQ(16) OBCS: Body shame BAS CSW: Appearance	-.62** (large) -.67** (large) .72** (large) -.48** (medium)	
Barrow, A. 2007 ³⁷	N= 76 100% 29y (9.18)	Clinical: 15% AN 34% BN 46% EDNOS 4% MI-BUL	OBS	SCS-26	SEDS: Anorexic Cognitions Bulimic Cognitions Anorexic Behaviours Bulimic Behaviours	-.28* (small) -.20 (small, NS) -.15 (small, NS) -.16 (small NS)	
Brown, B. 2007 ³⁹	N= 101 100% F 41yr	Non-clinical (teachers)	OBS	SCS-26	MBSRQ- Appearance Scale	.44** (medium)	
Ferreira et al 2013 ⁴⁶	Sample 1 (Clinical) N= 102 100% F 24y (7.42) Sample 2 (Non-	Clinical: 32% AN 30% BN 37% EDNOS Non-	OBS	SCS-26 (Portuguese)	EDI: Bulimia EDI: Drive for Thinness EDI: Body Dissatisfaction	NC: -.21* (small) ED: -.34* (medium) NC -.32*** (medium) ED: -.47* (medium) NC: -.34*** (medium)	Nonclinical sample: self-compassion did not mediate the association between body dissatisfaction and drive for thinness. Clinical sample: body dissatisfaction predicted higher levels of drive for thinness partially through

	Clinical N=123, 24y (6.89)	Clinical/student				ED: -.42* (medium)	decreased self-compassion.
Franks, M. 2011 ⁴¹	TSOA:N= 70, 77% , 48y (10.88) EDS:N= 192 , 96% , 31y (8.98)	TSOA Clinical	OBS	SCS-26	EDE-Q Global	TSOA: -.44* (medium)	Self-compassion significantly higher in TSOA then in student comparison group but lower then eating disorders
Finley- Strauss, 2011 ⁴⁰	N=226 100% , 21y (1.94)	students /non- clinical	OBS	SCS-SF	DEBQ – Restrained Eating DEBQ –Emotional Eating EDI-2 – Body Dissatisfaction CSWS: Physical appearance	-.30** (medium) -.30** (medium) -.48** (medium) -.37** (medium)	Self-compassion and restrained eating are negatively related through the pathway dissatisfaction with one’s body and appearance based self-worth.
Kelly et al 2014 ⁴⁷	N=87 97% female 28y(9.6)	Clinical: 29% AN-R19% AN-BP29%BN 23% EDNOS	OBS	SCS-SF	EDE-Q global EDE- Q restraint EDE-Q Shape concern EDE-Q-Weight concern EDE-Q Eating concern	-.45*** (medium) -.29* (small) -.43*** (medium) -.43*** (medium) -.47*** (medium)	Individuals with AN-BP and AN-R had comparable trajectories in global eating disorder pathology, shape concerns, and self-compassion, and these rates of change were poorer than in patients with EDNOS and BN.
Lockley, S. 2013 ⁴²	N=53 38% 46y (10.2)	TSOA	OBS	SCS-SF	EDE-Q Global TFEQ-R18 Cog Restraint TFEQ-R18 Emotional Eating TFEQ-R18 Uncontrolled Eating	-.50*** (large) No relationship -.43*** (medium) No relationship	

Pinto-Gouveia et al 2012 ⁴⁸	N=225 100% 123 non ED 24y (6.89) 102 Clinical 24y (7.42)	Mixed: Clinical and nonclinical	OBS	SCS – positive proxy (Portuguese)	SCPASS - Models EDI: Body Dissatisfaction EDI: Drive for thinness	0.56** (large) -.57** (large) -.63** (large)	
Pisitsungkarn, K. et al 2013 ⁴⁹	N=302 100% female Age: 20 (1.25)	non clinical Student)		SCS-26	BAS	.32** (medium)	
Prowse et al 2013 ⁵⁰	N= 411 75% 23y	Students/non clinical	OBS	SCS-26	EDE-Q:: Global EDE-Q: Restraint EDE-Q Eating Concern EDE-Q Shape Concern EDE-Q Weight Concern BI-AA	-.40** (medium) -.20** (small) -.41** (medium) -.41** (medium) -.38** (medium) 0.48** (medium)	Regression model for ED symptoms (EDE-Q) indicated that when Body image was excluded, self-compassion was found to be a significant predictor for eating disorder symptoms β -0.27, $p < 0.001$
Roy, M. 2010 ⁴³	N= 176 81% 26y	non clinical/ staff & students	OBS	SCS-26	EDE-Q Global	-.35*** (medium)	
Schoenefeld, S.J. & Webb, J.B. 2013 ⁵¹	N=322 100% 19y (1.46)	non clinical student	OBS	SCS – positive proxy	BIAAQ	.49** (Medium)	

Stuart, J. 2009 ⁴⁴	N=173 61% 19y (1.56)	non clinical (Student)	OBS	SCS-26	EAT-26 ASI-R: Self Evaluative Salience	Females: -.31* (medium) Males -.14 (not sig) Females: -.48* (medium) Males: -.31*	
Wasyliw et al 2012 ⁵²	100% Study 1 ⁽¹⁾ N=142 19y (1.13) Study 2 ⁽²⁾ N=187 18y, (1.04)	Non clinical (students)	OBS	SCS-26	BSQ-16 BAS BES ^b : Weight concern RRRS: Restrictive Eating RRRS: Eating Guilt	-.40 ⁽²⁾ ** (medium) .60 ⁽¹⁾ ** (Large) .48, ⁽¹⁾ ** (Medium) -.12 ⁽²⁾ (small) -.37(2)** (Medium)	Self-compassion uniquely contributed to eating guilt but not restrictive eating.
Webb & Forman, 2013 ⁵³	N=215 78% 20v, (1.48)	non clinical (Student)	OBS	SCS-positive proxy	BES ^a	-.21** (small)	

Pearson's correlations between self-compassion and disordered eating variables *p<.05 **p<.01, ***p<.001.

Effect size: .r=.1 (small) r=.3 (medium) r=.5 (large) 53 based on Cohen ⁵⁵

Clinical categorisation: TSOA: Treatment seeking obese adults; AN: Anorexia Nervosa; AN-R Anorexia Nervosa-Restricting Subtype; AN-BP Anorexia Nervosa-Binge Purge subtype; BN: Bulimia Nervosa, MI-BUL Multi-Impulsive Bulimia; EDNOS: Eating Disorder Not otherwise Specified (or A-typical Eating Disorder).

Measures: ASI-R Appearance Schemas Inventory-Revised⁵⁶; BAS Body Appreciation Scale⁵⁷; BSQ-16 Body Shape Questionnaire, 16 item version⁵⁸, BESa Binge Eating Scale⁵⁹, BESb Body Esteem Scale⁶⁰; CSWS: Contingencies of self-worth Scale⁶¹; BI-AAQ Body Image Appreciation and Acceptance Questionnaire⁶²; DEBQ Dutch Eating Behaviors Questionnaire³⁵; EAT-26 Eating Attitudes Test⁶³; EDE-Q Eating Disorders Examination³³; MBSRQ-AS: Multidimensional Body-Self Relations Questionnaire -Appearance Scales⁶⁴; MPS: RRRS Revised Rigid Restraint Scale⁶⁵; SEDS: Stirling Eating Disorder Questionnaire⁶⁶; SCS-SF Self Compassion Scale Short Form⁵²⁴; SCS Self-Compassion scale ¹⁷; TFEQ: Three Factor Eating Questionnaire⁶⁷. SCS Positive proxy: sum of 'positive' subscales.

1.3.2.Methodological Quality Assessment

Most of the studies were observational (cross-sectional and correlational) in design. While reporting on quality of observational studies has increased in recent years⁶⁸, systematic reviews of quality assessment tools and checklists for evaluating observational studies have found heterogeneity in tools used, and no single tool has been recommended⁶⁹⁻⁷⁰. The use of scales with summary scores to rate studies as high or low quality is not recommended⁷¹⁻⁷³. Given the lack of consensus on a choice of quality tool, and in the absence of a risk of bias tool for non-randomised studies from the Cochrane Group, the QualSyst⁷⁴ was used to provide a method of evaluation of the quality of the selected studies. The QualSyst is a 14-item checklist for rating studies developed from a systematic review of existing quality assessment tools and addresses all aspects for quality assessment recommended in the Centre for Reviews and Dissemination guidance⁷¹. The QualSyst provides guidance for evaluating methodological quality resulting in scores of yes=2, partial=1, no or not applicable=0. In keeping with the above guidance, an overall quality score was not assigned. Although studies such as randomized controlled trials are considered to produce 'higher quality' research outcomes than observational studies⁷⁵, the QualSyst tool does not rate study design in this way, but instead provides a system for evaluation of the methodology in relation to study aims and therefore focuses on internal rather than external validity of a study. To enhance reliability of quality assessment, six papers, selected at random using a computerised random number selection system⁷⁶ which were independently rated by the 4th author (EC). There was initial agreement between raters on 86% of items. Discrepancies in evaluations were

SELF-COMPASSION AND EATING DISORDERS REVIEW

discussed and 100% consensus was agreed on all items. Table 1.2 outlines the methodological quality of included studies.

Table 1.2. Evaluation of Methodological quality using the QualSyst tool.

Criteria	Alberts on, et al., 2014	Barrow , 2007	Brown, 2007	Ferreira, et al., 2013	Franks, 2011	Finley- Straus, 2011	Kelly, et al., 2014	Lockley , 2013	Pinto- Gouveia et al., 2012	Pisitsungk agarn et al., 2013	Prowse et al., 2013	Roy, 2010	Schoenfi eld & Webb 2013	Stuart, 2009	Wasytki w et al 2012	Webb & Forman, 2013
Objective described?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Partial	Yes	Yes	Yes
Design appropriate?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Subject selection	Yes	Yes	Partial	Partial	Yes	Partial	Yes	Yes	Partial	Partial	Partial	Partial	Yes	Partial	Partial	Partial
Subject character.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Random allocation	Partial	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Investigator Blinding	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Subject blinding	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Outcome measure	Yes	Partial	Yes	Yes	Yes	Yes	Yes	Yes	Partial	Yes	Yes	Yes	Partial	Yes	Yes	Partial
Sample size	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Partial	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Partial
Analytic methods	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
Variance reported?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
Confounding	Yes	Partial	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
Results reported	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Conclusions	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Partial	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

1.3.3 Methodological quality and Risk of Bias***Sample***

Studies largely fulfilled methodological criteria appropriate to study design. The main area where studies were deemed to be methodologically weaker was in participant recruitment: most participants were students and participating for course credit at American universities. These studies were awarded ‘partial’ for the item regarding recruitment. Whilst student populations are appropriate to recruit for disordered eating attitudes and behaviours, a self-selecting sample runs a risk of bias and underrepresentation of the variables of interest. Power was not routinely reported in the published studies but was reported in the theses. At least 70 participants are recommended for correlational studies to provide medium effect ($r=.03$) with $\alpha=.005$ (1 tailed), or 85 for $\alpha=.05$ (2 tailed)⁷⁷. For hierarchical multiple regressions 74 participants are recommended⁷⁸. Lockley’s study, using treatment seeking obese adults, was the only significantly underpowered study recruiting 53 participants. As well as risking Type II errors, underpowered studies can produce large effect sizes which can create Type I errors, thereby falsely rejecting the null hypothesis⁷⁹ and therefore findings of underpowered studies should be treated with caution. Other samples had adequate power for a one tailed correlation.

Outcome Measures

All outcomes were based on self-report. Papers reported a wide range of outcome measures pertaining to eating disorders, body image and self-compassion, using a mixture of total scale and subscales scores. Outcome measures used were valid and appropriate for the populations recruited, with the exception of the SEDS⁶⁶. Of note, the bulimia subscale of the SEDS did not achieve internal consistency,

and alternative measures to the SEDS are now recommended, a limitation acknowledged in the paper³⁷.

1.3.4 Synthesis of Results

Global Eating Disorders Scores

Relationships reported are statistically significant unless otherwise stated. Global eating disorder scores were reported by 6 out of 16 studies using EDE-Q in 5 studies^{41-43, 47,50} and EAT-26 in 1⁴⁴. Five of the studies reported moderate inverse relationships between self-compassion and global eating disorders scores. A sixth study⁴² using a treatment seeking obese adult (TSOA) sample, mostly males, reported a large effect size ($r = -.50$). Whilst this study was underpowered, findings were supported by an adequately powered TSOA sample using mostly female participants, ($r = -.44$)⁴¹. Self-compassion in the TSOA was lower than a student sample but higher than an eating disorders sample⁴¹. One study did not find a significant relationship between global eating disorders scores and self-compassion in a male student sample⁴⁴. In that study there were significant differences in the males and females EAT-26 scores, and males reported significantly fewer eating disorder symptoms and significantly higher self-compassion.

In a study which examined rates of improvement in patients with eating disorders over a period of 12 weeks, authors found that participants with anorexia diagnoses had slower and less significant improvements in global eating disorder pathology, shape concern and self-compassion than those with atypical eating disorders or bulimia nervosa⁴⁷. Simple slope estimates indicated the rate of change predicted changes in self-compassion, $F(3, 183) = 5.71, p < .001$.

Bulimic and Anorexic Eating Disorders variables

In a trans-diagnostic clinical sample, self-compassion was found to have a weak negative association ($r=-.28$) with anorexic cognitions, as measured on the SEDS (a potentially unreliable measure ³⁷) and no significant relationships were found with bulimic cognitions, or with anorexic or bulimic behaviour. Using the EDI Bulimia subscale with a similar trans-diagnostic clinical sample, Ferreira⁴⁶ found a weak negative association between self-compassion and bulimia in a non-clinical group ($r=-.21$), and a moderate negative association in the clinical group ($r=-.34$).

Emotional eating

In a student sample ⁴⁰, a medium sized inverse relationship was reported between emotional eating and self-compassion ($r=-.30$ DEBQ) and a stronger inverse relationship between these variables was reported in the majority male TSOA sample ($r=-.43$) (T-FEQ-R18). Mediation analysis in the student sample⁴⁰ suggested that body dissatisfaction, and appearance-based self-worth, mediated the negative relationship between self-compassion and emotional eating ($\beta= .40$ and $\beta=.15$ respectively) with body dissatisfaction being more strongly predictive in both disordered eating styles. Self-compassion was also found to be negatively predictive of both disordered eating styles to the same degree ($\beta=.30$). In a student sample, Webb & Foreman⁵³ reported a small negative association ($r-.21$) between binge eating and self-compassion.

Restrained eating

One study ⁵², using students, examined eating guilt (RRRS) and found a moderate moderately negative association with self-compassion ($r=-.37$). The same

SELF-COMPASSION AND EATING DISORDERS REVIEW

study reported the relationship between self-compassion and restrictive eating as non-significant ($r=-.12$). However, another student sample ⁴⁰ reported medium negative association between self-compassion and restrained eating $r=-.30$ (DEBQ). Another student sample ⁴⁶ reported a weak negative association ($r=-.20$) between self-compassion and the restraint subscale on the EDE-Q compared to medium associations on all other subscales in that study (shape concern $r=-.41$, weight concern $r=-.38$ and eating concern $r=-.41$). These findings were replicated in a trans-diagnostic clinical sample ⁴⁷ using the same measure: restraint $r=-.29$ (small), shape concern $r=-.43$ (medium) weight concern $r=-.43$ and eating concern $r=-.47$ (medium). In treatment seeking obese individuals ⁴², no relationship was found between self-compassion and cognitive restraint, or indeed with uncontrolled eating (T-FEQ-R18). This sample will presumably have had some fundamental differences from some of the student samples as these patients were clinically obese and engaged in a weight loss programme. This response may require further exploration as it may represent a confounding variable such as dietary plans to restrict intake, perceived desirable responses due to stage of treatment, or may indeed signify a lack of relationship between the variables. Furthermore, the study ⁴² was underpowered and therefore outcomes should be treated with caution. In summary, restrained or restricted eating appears to have a small negative relationship with self-compassion across clinical and non-clinical samples but not in TSOA.

Body Dissatisfaction

Correlation of self-compassion with a measure of body image was included in 11 of the 16 studies. In a non-clinical sample of women with likely body image problems ⁴⁵, large negative associations were reported between self-compassion and

SELF-COMPASSION AND EATING DISORDERS REVIEW

body shame $r=-.67$ and body dissatisfaction $r=-.62$. Medium to large negative associations between self-compassion and drive for thinness in non-clinical ($r=-.32$) and clinical ($r=-.47$) samples, and self-compassion and body dissatisfaction (non-clinical $r=-.34$; clinical $r=-.42$), with a stronger association in the clinical groups⁴⁶. (EDI). Exploring this association further, Ferreira⁴⁶ found differences between clinical and nonclinical participants in the mediating role between self-compassion, drive for thinness and body dissatisfaction. In the non-clinical sample self-compassion did not mediate the association between body dissatisfaction and drive for thinness. In the clinical sample, body dissatisfaction predicted higher levels of drive for thinness, partially through decreased self-compassion ($z = -2.63$; $p = .009$). In a combined clinical and nonclinical sample⁴⁶, large associations were found between self-compassion and drive for thinness ($r=-.63$) and between self-compassion and Body Dissatisfaction ($r=-.57$) (EDI). In students, similar moderate negative relationships between self-compassion and body dissatisfaction were reported by Finley-Straus⁴⁰ on the EDI-2 ($r=-.48$), and by Prowse⁵⁰ on subscales of the EDE-Q pertaining to weight concern $r= -.38$, and shape concern ($r=-.41$).

Appearance based self-worth

A number of studies explored the relationship between self-compassion and appearance based self-worth, and the effect of appearance based comparisons of self with others. In both male and female students⁴⁴, medium negative correlations were reported between self-compassion and body image investment, $r=-.476$, $r=-.306$ respectively (ASI-R). Appearance based contingent self-worth was reported in two studies^{40,45} to have a medium negative relationship with self-compassion $r=-.37$, $r=-.48$.

Body Appreciation

In a mixed clinical and non-clinical sample ⁴⁸, women who compared themselves more favourably with models had higher self-compassion $r=0.56$. Similarly, students' body appreciation was found to be positively associated with self-compassion on 3 studies ^{45,49,52} ranging from $r=-.32$ to $r=.72$. In another student sample ⁵¹ body image and acceptance was moderately positively associated with self-compassion ($r=.49$). Similar positive body attitudes were associated with self-compassion, $r=.44$, in a student sample ³⁹ using the appearance scale of the MBSRQ and $r=.48$ in a student sample ⁵⁰ using the BI-AAQ. Positive body esteem on the weight concern subscale of the BES were associated with higher self-compassion $r=.48$ ⁵² although another study only found a small association $r=-.21$ ⁵³. The latter study used the 'positive proxy' of positive subscales only as a measure for self-compassion.

In a community population with likely body image concerns ⁴⁵, following a brief self-compassion meditation intervention, significantly greater gains in self-compassion, greater reductions in body dissatisfaction (medium effect size), body shame (medium effect size), and contingent self-worth based on appearance (small effect size), while experiencing significantly greater gains in body appreciation (medium effect size) compared to the control group. These benefits were maintained 3 month follow up. In a student sample ⁵², self-compassion uniquely contributed to eating guilt but not restrictive eating. Self-compassion and restrained eating were reported to be negatively related through the pathway dissatisfaction with one's body and appearance-based self-worth ⁴⁰. Prowse ⁵⁰ found in regression model for eating disorder symptoms (EDE-Q) that when Body image was excluded, self-compassion

SELF-COMPASSION AND EATING DISORDERS REVIEW

was found to be a significant predictor for eating disorder symptoms β -0.27, $p < 0.001$.

Overall, these results strongly suggest that greater self-compassion is associated with more positive body image and attitudes, and less body dissatisfaction, although of course causality cannot be assumed.

1.5 DISCUSSION

The aim of this review was to examine the literature pertaining to the relationship between self-compassion and eating disorders pathology. Overall, findings suggest that there is a moderate inverse relationship between self-compassion and global eating disorders psychopathology although causality is not established. Measurement of components of eating disorders psychopathology was heterogeneous making it challenging to provide a parsimonious review of the numerous and nuanced aspects of eating disorders. For this reason a systematic rather than meta analytic approach was used to provide sensitive analysis reflecting the nuances of the heterogeneous components of clinical and non-clinical populations and the range of disordered eating pathology in the data (such as ‘cognitive restraint’, ‘restrained eating’, and ‘restraint’) However, it does highlight that self-compassion may be more relevant to some aspects of eating disorders pathology rather than others. In particular low self-compassion was found to be more strongly related with emotional eating and self-judgement about perceived weight or shape than with cognitive restraint or restricted eating behaviour. Although there are too few studies to draw firm conclusions, results suggest that apart from one study³⁷ when comparing similar variables, there was a slightly stronger negative associations

SELF-COMPASSION AND EATING DISORDERS REVIEW

in participant samples with diagnosed eating disorders and treatment seeking obese populations than in student or community samples. The largest associations with self-compassion^{42,45,48,52}, which were strong across clinical and non clinical samples, were in relation to aspects of body image, both positive and negative aspects. These findings suggest that self-compassion may be an important construct for preventative and treatment approaches to promoting healthy body image and healthy eating attitudes and behaviours.

Self-compassion was found to have a small to medium negative relationship with restrained eating, and a stronger relationship with emotional eating and body image problems. Emotional eating is higher in people with bulimia diagnoses than anorexia, although both emotional eating and severe restricting behaviours can be responses to adverse emotions⁸⁰. Self-compassion may have a particularly important role in targeting emotional eating as an alternative response to adverse emotional states, but less of a role in targeting restrictive eating behaviours.

On the whole, findings from this review suggest that higher levels of self-compassion were associated with better body image and reduced self-worth based on appearance. As risk factors amongst adolescents for the development of eating disorders include body dissatisfaction, drive for thinness, as well as disordered eating such as binge eating and dieting behaviour⁸¹⁻⁸², results suggest that establishing the role of self-compassion in body image may potentially be a fruitful target for prevention and intervention approaches. It is noteworthy that these studies do not report on objective measures of body shape or weight such as body mass index as a variable and therefore it cannot be assumed that that these factors do not influence outcomes.

SELF-COMPASSION AND EATING DISORDERS REVIEW

The lack of intervention based studies meeting criteria for the review suggests that there may not yet be robust evidence that interventions aimed at increasing self-compassion result in improvements in eating disorder symptoms. Furthermore as only six studies used participants with diagnosed eating disorders, further research in these populations may be needed to support preliminary associations found in this review to establish if findings generalise from non-clinical groups to clinical diagnoses. Finally, as self-compassion was also found to be lower in treatment seeking obese adults than in community samples, this review supports the notion that there may also be merit in further exploration of disordered eating psychopathology in people with obesity and the role of self-compassion⁸³.

1.5.1 Implications for Clinical Practice

Self-compassion may have an important role in the prevention and treatment of eating disorders pathology, particularly emotional eating, appearance-based self-worth, and body image problems. The role in restrained eating is less clear. Further research is warranted to discover if, what and when, interventions aimed specifically at raising self-compassion in individuals with eating disorders, would be beneficial. There are some examples in the literature of compassion focussed interventions. For example, Gale et al ⁸⁴ have introduced compassion focussed therapy to standard treatment programmes for people with eating disorders. Their initial findings suggest that people with bulimia, more so than with anorexia, made significant improvements although a control group was not used to demonstrate the additional benefit of CFT modification. In addition to interventions aimed at reducing dysfunctional cognitions and behaviours associated with eating disorders, there have been suggestions that a ‘positive psychology’ approach could enhance prevention

and treatment approaches. In other words, exploring adaptive functioning and protective factors as opposed focusing on negative and dysfunctional factors⁸⁵ could be beneficial in multimodal prevention and treatment approaches for eating disorders⁸⁶⁻⁸⁶.

1.5.2. Strengths, Limitations and suggestions for future research

This is the first systematic review to explore the relationship between self-compassion and eating disorder pathology. A potential strength of the review is the inclusion of substantial grey literature, as given that research into eating disorders and self-compassion is fairly new, there could be a publication lag in this area.

The Quallsyst tool proved limited in the assessment of external study validity. Although there was acceptable rationale for using this tool, in practice the tool was limited to providing an analysis of the internal quality of the studies provided something of a ceiling effect in the quality assessment outcomes with most studies meeting quality criteria appropriate to study design.

Limitations of this review include the dominance of cross-sectional rather than longitudinal studies as causation within the relationships identified cannot be inferred. However, this review indicates emerging empirical support for self-compassion as a potentially important variable in eating disorders, and provides an ethical and rational foundation upon which more methodologically rigorous experimental studies can be built such as intervention studies or longitudinal observations⁸⁸⁻⁸⁹. Further reviews might explore other relevant aspects of self-compassion such as fear of self-compassion⁹⁰. Receiving compassion from others or being self-compassionate may be experienced as threatening particularly in

SELF-COMPASSION AND EATING DISORDERS REVIEW

individuals with high levels of shame such as those with eating disorders ⁹¹ and contribute to poorer treatment outcomes ⁹². A number of potentially relevant papers were not included in the review which may have made an important contribution to the particular question of self-compassion and eating disorders. For example, Breins ⁹³ adapted the SCS so that items reflected self-compassionate attitudes specifically in relation to body image issues, referring to it as ‘appearance-related self-compassion’. Examination of the psychometric validity of the appearance-related self-compassion measure, and indeed the SCS and SCS-SF, might be particularly useful with eating disordered populations.

Further exploration of the stability of the construct of self-compassion over time may help understanding about how self-compassion relates to other personality variables known to be risk factors for developing eating disorders. This review did not examine the relationship between self-compassion and perfectionism, shame and self-criticism, or interpersonal difficulties in people with eating disorders, a relationship established in other samples ¹². However, it could be useful to explore these in relation to the impact of self-compassion enhancing interventions in ‘at risk’ populations.

Finally, this review does not constitute a full review of the relationship between self-compassion and body image. Therefore, these findings may not generalize to people affected by body image issues stemming from factors unrelated to eating disorders or body attitudes related to physical illness or disfigurement. However, given the large associations between body image difficulties and low self-compassion reported in this review, findings suggest investigation of the relationship in such populations appears to be of merit.

1.6 CONCLUSIONS

This review offers the first systematic study of the relationship between eating disorders and self-compassion. The review suggests there is a negative relationship between self-compassion and eating disorder pathology particularly in relation to self-concept, body image and emotion regulation. Following the trend towards a ‘positive psychology’ approach, which focuses on optimal functioning and human strengths as opposed to weaknesses and dysfunction⁸³, findings suggest that future research into the potential active role of self-compassion in the prevention and treatment of eating disorders, particularly in clinical populations would be warranted.

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JOURNAL ARTICLE 2

**CONFIRMATORY FACTOR ANALYSIS OF SELF-COMPASSION
SCALE (SHORT FORM), AND THE ASSOCIATION WITH
ALEXITHYMIA AND EMOTION REGULATION.**

Formatted for Psychological Assessment (see Appendix 2.E for Author guidelines).

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2.1 ABSTRACT

Aim

The aim of the study was to provide a confirmatory factor analysis of the SCS-SF in a clinical population, and to assess the convergent validity of the self-compassion construct as measured by the SCS-SF, with theoretically relevant constructs of emotion regulation and alexithymia.

Method

297 people referred to a clinical psychology service in Scotland completed a battery of psychometric tests, namely Self-Compassion Scale – Short form, Toronto Alexithymia Scale, Hospital Anxiety and Depression Scale, Clinical Outcomes in Routine Evaluation Assessment, and Difficulties in Emotion Regulation Scale.

Results

Confirmatory factor analysis of the SCS-SF did not support six factor or hierarchical models. A two-factor model provided adequate fit ($\chi^2/df=2.25$; $p<.001$; CFI=.97; TLI=.97; WRMR=.84, RMSEA=.06). Pearson's correlations revealed negative correlations between self-compassion and alexithymia ($r=-.394$, $p<0.01$), and emotion dysregulation ($r=-.633$, $p<0.01$) anxiety ($r=-.460$, $p<0.01$) and depression ($r=-.501$, $p<0.01$) and global distress ($r=-.597$, $p<0.01$). Hierarchical regression analyses indicated that self-compassion was a unique predictor of distress. Implications for use of the SCS-SF with clinical populations are discussed.

Key words: Self-compassion, alexithymia, emotion regulation, factor analysis.

2.2 INTRODUCTION

The emergence of ‘third wave’ psychotherapies has heralded a renewed interest in the contexts, processes and skills involved in emotion regulation and their role in mental health (Axelrod, Pereplechikova, Holtzman, & Sinha, 2011; Hayes, Luoma, Bond, Masuda, A, Lillis, 2006). Difficulties in regulating negative emotions, or in generating positive ones, appear to be germane in the development, maintenance and treatment of mental health problems and are common across diagnoses (Fehlinger, Stumpfenhorst, Stenzel, & Rief, 2013). Whilst no single operational definition of emotion regulation exists (Rottenberg & Gross, 2007), adaptive emotion regulation skills are thought to include reduced use of avoidance, rumination and suppression of ‘negative’ emotions, and increased acceptance and reappraisal (Aldao & Nolen-Hoeksema, 2010). Difficulties in emotion regulation have been identified in people with alexithymia (Chen, Xu, Jing, Chan, 2011). Alexithymia is largely considered to be a personality trait, characterised by problems in identifying and describing feelings, recognising when physical sensation arise from emotions; and a tendency to attribute emotions as being externally influenced with constricted imaginal processes. Alexithymia has been linked to a range of physical and mental health problems including depression (Pandey, Saxeny, & Dubey, 2011; Li, Zhang, Guo, & Zhang, 2015). and has also been associated with difficulties in experiencing affectionate communication and closeness in relationships (Hesse, & Floyd, 2011; Vanheule, Desmet, Meganck, & Bogaerts, 2007). Emotion regulation skills are increasingly incorporated into a range of psychotherapeutic interventions (Fehlinger et al., 2013; Berking & Wupperman, 2012; Fresco, Mennin, Heimberg, & Ritter,

2013). Whilst traditional psychotherapeutic approaches have tended to focus on reducing negative affect, (such as low mood or anxiety), recent research has suggested that helping individuals to develop skills in generating positive affect, such as compassion and happiness, is also important (Gilbert, McEwan, Catarino, Baiao, & Palmeira, 2014).

Self-compassion is an emerging construct in clinical research, with a potentially important role in improving awareness and regulation of emotional states associated with psychopathology (MacBeth & Gumley, 2012; Brion, Leary, & Drabkin, 2014; Slanche, 2013; Diedrich, Grant, Hofmann, Hiller, & Berking, 2014). Whilst the terms ‘compassion’ and ‘self-compassion’ are used interchangeably in the literature (Macbeth & Gumley, 2012) a number of theoretical models exist to explain its proposed role in psychological wellbeing. Compassion is viewed as a ‘multifarious process’ (Gilbert, 2009, p105), and in essence, involves “a basic kindness, with deep awareness of the suffering of oneself and of other living things, coupled with the wish and effort to relieve it” (Gilbert, 2009, pxii). Self-compassion is the directing of compassion towards the self, experiencing painful emotions rather than avoiding them, with a view to soothing distress and facilitating a positive emotional state. Embedded within compassion is ‘mindful awareness’ which involves intentionally attending to internal and external events with a non-judgemental awareness and stance, in the present moment (Baer, 2010).

Drawing on Buddhist, social and clinical psychology and neurophysiology, and Gilbert’s work in clinical populations, is the proposition that compassion contributes to the brain’s evolved affect regulation systems. Compassion is part of the ‘safeness-

soothing' system, which exists alongside 'threat-defense' and 'drive for resources' systems (P. Gilbert 2009, pp186). The ability to be self-compassionate develops within the context of being able to give to, and receive compassion from, others, which is fostered in healthy, compassionate early attachment relationships. In Gilbert's model, the chronic absence of a compassionate soothing environment, and/or the presence of chronic threat, can lead to the under development of these soothing neural pathways, a deficit in developing self-soothing skills and a fear of compassion from others (Gilbert, 2014). A person may therefore have an over-developed threat-defense system, manifesting in high critical and attacking forms of relating to the self, and an underdeveloped and even fearful avoidance of warmth/soothing or compassion towards the self.

From Buddhist and Social Psychology traditions, self-compassion has been defined as comprising three bipolar components, namely mindful awareness versus overidentification, common humanity versus isolation, and self-kindness versus self-criticism (Neff, 2003). In other words, self-compassion is the present-moment awareness of emotional states (Mindfulness) without fusion with negative thoughts or feelings (overidentification), an acceptance that imperfection and suffering is a shared part of the human condition (Common humanity) and not a personal failing (isolation), and the ability to be kind (self-kindness) rather than critical (self-judgement) toward the self in the face of perceived failure or difficulty. Self-compassion is considered to be the presence of these positive components as well as the absence of the negative aspects. Neff (2011) differentiated self-compassion from the related construct of self-esteem, suggesting that self-esteem is based on evaluating oneself in comparison with others whereas self-compassion is based on

relating to oneself without self-evaluation or comparison. This proposition is supported by Rational Emotive Behaviour Therapy which suggests unconditional self-acceptance is a more functionally useful approach of self-relating whereby individuals can examine their own strengths and weaknesses without fear or self-criticism (Chamberlain & Haaga, 2001). Indeed, in the face of perceived inadequacy or inferiority, self-compassion has been linked to increased motivation, 'positive' behaviour, resilience, and less negative emotion (Brienes & Chen, 2012, Neff & McGehee, 2010; Leary, Tate, Adams, Allen, Hancock, 2007; Choi, Lee, & Lee, 2014). For example, Brienes & Chen (2012) found that those with greater self-compassion reported greater motivation to make improvements in behaviour such as spending more time studying for a difficult test following an initial failure. Positive association between self-compassion and engagement in adaptive behavior change including smoking cessation (Kelly, Zuroff, Foa, & Gilbert, 2010) and reducing problematic alcohol use (Brooks, Kay-Lambkin, Bowman, & Childs, 2012), and less risky sexual behaviour in people with HIV (Dawson, Webel, Sullivan, Cuca, Wantland, Johnson, et al. 2014). These findings suggest that self-compassion may facilitate people to be more able and willing to face personal failings or challenges and feel more motivated to engage in adaptive behaviour.

A recent meta-analysis found that higher levels of self-compassion, as measured by the Self-Compassion Scale (Neff, 2003) was associated with lower levels of anxiety, depression and stress (Macbeth & Gumley, 2012). Authors concluded that the large effect size calculated for the relationship provides empirical evidence for the relevance self-compassion in mental health. Indeed, self-compassion has been found to be a robust predictor of symptom severity and quality of life in people who have

experienced anxiety, depression, worry and low quality of life (Van Dam, Sheppard, Forsyth, & Earleywine, 2011). Neuroendocrinological research has also found that brief self-compassion training can lead to improvements in some biological markers of stress, such as dampening of the sympathetic nervous system, and subjective distress, in stressful situations (Arch, Brown, Dean, Landy, Brown & Laudenslager, 2014; Pace, Negi, Adame, Cole, Sivilli, Brown, & Raison, 2009). It is important to note that whilst clinical research regarding the role of self-compassion in mental health is certainly developing, the only published meta-analysis of self-compassion and psychopathology to date returned 25 out of 32 studies using participants from non-clinical settings (MacBeth & Gumley, 2012). This suggests that much more research using clinical populations is required before findings can be generalised.

Measuring self-compassion

The most commonly used measure of self-compassion is Neff's 26 item Self-compassion Scale (SCS) (Neff, 2003; MacBeth & Gumley, 2012). The SCS measures a higher order Self-compassion factor with six first-order factors (Self-Kindness, Self-Judgment, Common Humanity, Isolation, Mindfulness and Over-identification), and was examined using students, Buddhist monks and community samples. Factor analysis for the above 6 factor model found adequate fit (NNFI = .90; CFI= .91), and a 2-factor model (NNFI=.88; CFI=.91) was also supported, with each factor loading significantly different from zero ($p < .001$) (Neff, 2003) and only marginal fit was found for a single factor model (NNF=.88; CFI=.90). Raes, Pommier, Neff and van Gucht (2011) developed a valid shorter 12 item scale (SCS-SF) proposing it as a less time consuming to complete and therefore potentially more useful for administration in clinical practice and research. CFA, again using a

predominantly female, student sample, found that a hierarchical six factor structure had adequate fit ($SBS-\chi^2 = 175.50$ ($df = 48$), $RMSEA = 0.080$, $SRMR = 0.077$, $CFI = 0.97$ and $NNFI = 0.96$) (Raes et al, 2011). However, internal consistencies for the SCS-SF subscales were not as robust as the SCS subscales (α 0.54 to 0.75) and therefore authors did not recommend individual subscale scores be relied upon (Raes et al, 2012). Garcia-Campayo, Navarro-Gil, Andrés, Montero-Marin, López-Artal, & Demarzo, (2013) evaluated a Spanish version of the scale, using health service workers. CFA of a Spanish version of the SCS-SF demonstrated that the original six-factor model also showed goodness of fit: $CFI=0.94$; $GFI=0.91$; $SRMR=0.05$; $RMSA=0.07$ (0.05-0.08)].

Williams, Dalgleish, Karl, & Kuyken (2014) provided the first published study to examine the factor structure of the SCS using clinical populations. CFA of the 26 item Self-Compassion Scale was examined in three adult samples: an unspecified community sample, a sample of meditators, and a sample with recurrent depressive disorder in remission. Their findings did not support the the 6-factor hierarchical structure in any of the samples. This suggests that if the SCS, in its long or short form, is to be used in clinical samples, further examination of the psychometric properties is crucial in order to develop a more psychometrically robust measure of self-compassion.

Recently, Kemppainen, Brion, Leary, et al (2013) produced The Brief Version of Self-compassion Inventory (BVSCI), based on the SCS, and as such it has not yet been widely used in research. Examination of the factor structure of the BVSCI indicated two factors (low and high self-compassion) rather than the hierarchical

six factor structure of the SCS. The BVSCI was considered to be valid and useful for people with HIV and possibly other health conditions where the original 26 items SCS might be considered taxing (Barnard & Curry, 2011; Kemppainen et al 2013) but so far has not appeared in other published literature.

Other measures relevant to compassion and self compassion include Gilbert's three 'Fears of Compassion' Scales (Gilbert, McEwan, Matos & Rivos, 2011), which measure fear of compassion *for* others, *from* others, and *for* the self. In the development of the scales, fear of compassion for self was strongly correlated with fear of compassion from others, suggesting a general difficulty in dealing with self or other generated affiliative emotions (Gilbert, McEwan, Gibbons, Chotai, Duarte & Matos, 2012). The Forms of Criticising/Self Reassuring Scale (Gilbert, Clarke, Hempel, Miles, & Irons, 2004) is a 22 item scale measuring both these positive and negative forms of relating to self. Whilst these scales represent clinically important components of an individual's ability to utilize self-compassion, they do not measure self-compassion itself as defined by Neff (Gilbert et al, 2012).

Apart from the recently developed BVSCI, the SCS and SCS-SF are the only validated measures of self-compassion. As research into the construct progresses in both community and clinical settings, it is important to examine if these scales are appropriate for such use, and how they should be interpreted. Firstly, the demographic homogeneity of the largely female (70%), non-clinical samples used in psychometric validation studies of the SCS and SCS-SF to date, may mean that the target construct may have different properties in clinical samples (Clark & Watson, 1995). Furthermore, some researchers have used composites of the 'positive' aspects

of the scales to measure self-compassion (MacBeth & Gumley, 2012) and others, who view positive and negative affect as “tapping different physiological systems” have used the SCS as two scales measuring selfwarmth and selfcoldness (Gilbert et al., 2014). If self-compassion is to gain a robust evidence base in clinically relevant literature it is important that the construct measured is examined and defined. In other words, does the SCS-SF, when used with a clinical population, measure an interplay between six related but distinct factors of mindfulness, self-kindness, common humanity, self-judgement, isolation and overidentification, or something else?

Factor analysis and scale validity

The process of developing psychometric scales to measure constructs such as self-compassion, involves structural equation modelling (SEM) which assesses what unobserved factors (latent variables) are measured by observed scale items (indicators). Exploratory Factor analysis (EFA) is a type of SEM conducted initially to ‘evaluate the dimensionality of a set of multiple indicators’ (T.A. Brown, 2006 pp20). Once a factor structure is hypothesised to explain the relations between observed items and unobserved factors, Confirmatory factor analysis (CFA) usually follows. CFA tests the scale’s latent factor structure, as well as exploring the scale’s convergent and divergent validity amongst theoretically related constructs such as those measured by subscales. Analysis of the proposed factor structure using a range of populations including diverse clinical populations, ethnicities and gender, is crucial to the establishing validity of the scale, and how it can be used (Clarke & Watson, 1995). CFA provides one such method of exploring scale validity and can furthermore provide population norms for the scale.

Summary

In summary, the literature to date on self-compassion is nascent but suggests it is a construct associated with psychological wellbeing, and inversely associated with psychopathology and biological markers of stress. The literature suggests that self-compassion may have an important role in emotion regulation in identifying, describing and internally regulating emotions, a particular challenge for individuals with alexithymia whose difficulties may also have arisen from attachment related difficulties. This study aims to add to current clinical understanding, measurement and application of self-compassion by testing the factor structure of the SCS-SF using confirmatory factor analysis, in a heterogeneous clinical population of people with mental health problems.

2.3 METHOD

2.3.1 Study Design

This study was an observational cross-sectional study design.

Part 1: Confirmatory Factor Analyses (CFA) of the Self-Compassion Scale-Short Form (SCS-SF) using a clinical population.

Part 2: Exploration of the relationship between self-compassion, alexithymia and emotion regulation and common indicators of distress.

A priori power analyses were conducted to establish how many participants were required for each analysis. For Confirmatory Factor analysis, Nunnally (1978, in Brown, 2006) argues to avoid chance effects, a ratio of 20:1 for subjects to variables is required. Kline (2000, in Brown, 2006) suggests that a sample size of 100 is the minimum and recommends at least 200. As there are 12 items in the SCS-SF, 240 participants were required. For correlation analysis of SCS-SF, Difficulty in Regulating Emotions Scale, (DERS), Toronto Alexithymia Scale (TAS-20) and Hospital Anxiety and Depression Scale (HADS) and Clinical Outcomes in Routine Evaluation (CORE) Assessment. *A priori* power analysis indicated at least 85 participants are recommended for Pearson's product moment correlational studies to provide medium effect for $\alpha = .05$ (2 tailed) (Clarke-Carter, 2009).

2.3.2 Procedure

Ethical Approval

Full ethical approval was granted by the Research Ethics Committee: IRAS project ID 113217 (see Appendix 2.A.1) and by the local NHS Research and Development Department in the Health Board (Appendix 2.B.1).

Participants:

People referred to the NHS adult Clinical Psychology Service usually by General Practitioner or Psychiatrist because they were experiencing mental health problems and who had agreed to receive an assessment appointment were invited to participate in the study. Participants were not screened for any particular mental health diagnoses, and a small proportion may have been referred for assessment for developmental disorders such as Autism Spectrum Disorder. They were not screened for previous psychology input and therefore it is assumed that some of the participants will have had previous psychological therapy although others would be presenting for the first time. All data were collected at the first appointment of the current episode of contact with the psychology service. As such, the participants were a heterogeneous sample, representative of a typical population referred to that clinical psychology service.

A letter of introduction to the study and invitation to participate (Appendix 2.C.1), a participant information document (Appendix 2.C.2), a demographic questionnaire (2.C.3), and research questionnaires were included with patient appointment letters and routinely collected clinical measures. Consent to participate was provided by the return of the (anonymous) research questionnaires. Research questionnaires were

returned to the assessing clinician at their first appointment who forwarded them to the researcher. The postal address from the researcher was provided if participants wished to return questionnaires directly. Data were collected from 22 October 2013 to 30 April 2014 (27 weeks).

Non-identifiable demographic information was collected in order to establish the characteristics of the sample. Participant characteristics are outlined in Table 2.1.

Table 2.1: Demographic characteristics of participants

Characteristic	N (%)
Gender	
Male	111 (37.4%)
Female	182 (61%)
Transgender or missing	4 (1.3%)
Age Range: (years) (mean)	17-76 (37)
Level of Education completed	
Primary School	.7 %
Secondary School	14.5%
Standard Grades	18.9%
Scottish Highers or Equivalent	23.2%
University	34.7%
Prefer not to answer	8.1%
Employment status	
Employed or Self employed	148 (50%)
Unemployed	82 (28%)
Student	23 (8%)
Retired	18 (6%)
Prefer not to answer	26 (9%)
Scales Included	
SCS-SF	297
TAS-20	292
DERS	285
HADS	279
CORE-OM	276
Excluded due to incomplete SCS-SF	26

2.3.3 Measures

Participants were asked to provide non-identifiable demographic data including age, gender, employment and educational status. This was gathered to explore the representativeness of those who elected to participate. Variables explored in this study were gender and scores on self-report measures (HADS, CORE-OM, TAS-20, DERS, SCS-SF).

Hospital Anxiety and Depression Scale (HADS) (Zigmond & Snaith, 1983)

The HADS was used to assess anxiety and depression. The HADS performs well in assessing symptom severity and ‘caseness’ of anxiety disorders and depression in a range of clinical and community populations (Bjelland, Dahl, Haug, Neckelmann, D. (2002). Items are rated on a four-point response category (0–3). Cut off scores for both anxiety and depression are normal (0-7), mild (8-10), moderate (11-15) and severe (16-21) (Zigmond & Snaith, 1983). Cronbach’s α for this sample was 0.865,

Mean= 24.4, SD 7.20 (n=279)

Clinical Outcomes in Routine Evaluation – Outcome Measure (CORE-OM) (Evans, Connell, Barkham, Margison, McGRATH, Mellor-Clark, J, & Audin (2002).

The CORE-OM was used to measure psychological distress and functioning. It measures four domains: subjective wellbeing, symptoms, function and risk and a global distress score. The CORE-OM has good internal test-retest reliability (0.75-0.95) and convergent validity with seven other measures of clinical mental health problems (Evans et al, 2002). Cronbach’s α for this sample was 0.949, Mean =70.8, SD 25.26 (n=272).

Toronto Alexithymia Scale -20 (Bagby, Taylor & Parker, 1994)

The TAS-20 was used to measure alexithymia. It is a 20-item self-report scale which measures three factors: Difficulty Describing Feelings, Difficulty Identifying Feeling and Externally-Oriented Thinking. Items are rated using a 5-point Likert scale ranging from 1 (strongly disagree) and 5 (strongly agree). Higher scores represent greater alexithymia. The TAS-20 uses cut-off scoring: equal to or less than 51 = non-alexithymia, equal to or greater than 61 = alexithymia. Scores of 52 to 60 = possible alexithymia. The TAS has been found to demonstrate good internal consistency (Cronbach's $\alpha = .81$) and test-retest reliability (.77, $p < .01$). It has been found to be stable and replicable across clinical and nonclinical populations (Ciarrochi & Bilich, 2006). Permission was obtained by the author to use this questionnaire for this study (Appendix 2.C.4). Cronbach's α for this sample was 0.846, Mean= 62.4, SD =11.877 (N=292).

Difficulties in Emotion Regulation Scale (Gratz & Roemer, 2004)

The DERS is a brief, 36-item self-report questionnaire designed to assess multiple aspects of emotional dysregulation. Items are scored on a 5-point Likert scale on how often people behave in a certain way, from 1=almost never to 5 almost always. Higher scores suggest greater problems with emotion regulation. The measure yields a total score as well as six sub-scales scores: Non-acceptance of emotional responses, Difficulties engaging in goal directed behaviour, Impulse control difficulties, Limited access to emotion regulation strategies, Lack of emotional clarity and Lack of emotional awareness. Scores on this measure have been found to have high

internal consistency within clinical populations (Fox et al., 2007). Cronbach's α for this sample was .946, Mean =120.23, SD 26.21 (n=285).

Self Compassion Scale – Short Form (Raes et al., 2011)

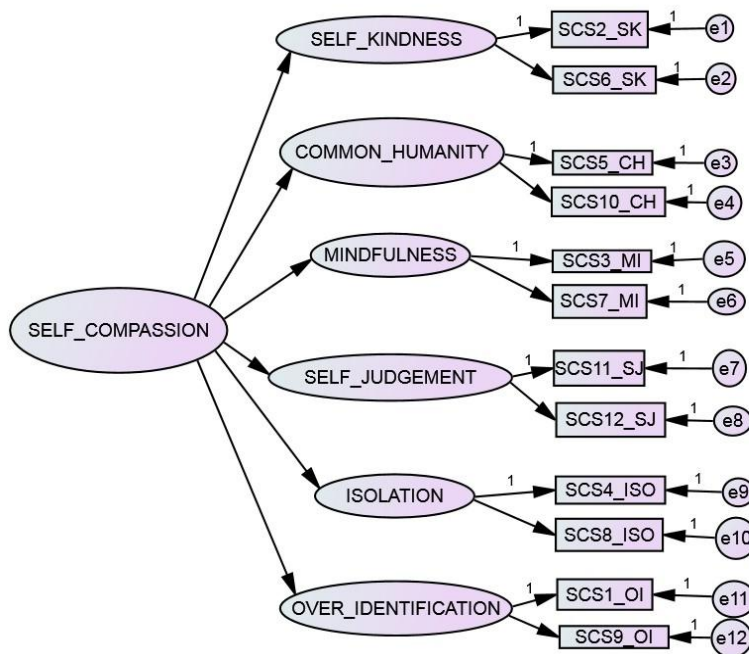
The SCS-SF is a 12 item self-report measure providing a 'higher order' factor of self-compassion and 6 second-order factors: Self-Kindness, Self-Judgment, Common Humanity, Isolation, Mindfulness and Over-Identification. Responses are indicated on a Likert Scale from 1 (almost never) to 5 (almost always). Cronbach's α for this sample was 0.820, Mean= 25.89, SD 7.62 (n=297).

2.3.4 Statistical Analysis

Preliminary analysis of the data was conducted to assess the suitability for CFA. Although Likert scales with 5 or more items can be treated as continuous data rather than ordinal if normally distributed (Rhemtulla, Brosseau-Liard, & Savalei, 2012), clinical data is often not normally distributed. Weighted Least Squares estimation, appropriate for polychoric correlations required for ordinal data was used (Flora & Curran, 2004; Holgado-Tello, Chacón-Moscoso, Barbero-García, & Vila-Abad, 2010). Confirmatory factor analyses (CFAs) of the SCS-SF was carried out using robust weighted least squares estimation method (WLSMV) using MPlus V6 (Muthen & Muthen 2010). Four models were tested: a one-factor 'self-compassion' model, two-factor (positive and negative items), a six-factor model (corresponding to the six subscales) and a six-factor hierarchical model (corresponding to the six subscales with an overarching self-compassion factor). These models with the exception of the two factor model were tested by Williams et al, (2014) on the original 26 item Self-Compassion Scale (Neff, 2003), with Neff (2003) testing a 2 factor model and Neff (2003) and Raes et al. (2011) testing hierarchical six factor

and hierarchical models. Goodness of model fit was assessed through the following indices: Absolute fit = chi-square (χ^2 ; degrees of freedom), Parsimony correction = root mean square error of approximation (RMSEA); comparative fit = comparative fit index (CFI) and Tucker-Lewis index (TLI), also referred to as the non-normed fit index (NNFI). The weighted root-mean-square residual (WRMR) was selected due to the categorical indicators of the Likert Scale (Cook, Kallen, & Amtmann, 2009). Cut offs for acceptable model fit were: χ^2 / degrees of freedom (df) ratio of 3 or less, RMSEA ≤ 0.06 , CFI ≥ 0.96 and TLI ≥ 0.95 , WRMR ≤ 1.0 (Yu, 2002). The higher-order model is depicted diagrammatically in Figure 1. Rectangles represent observed indicators (SCS-SF items), and oval shapes represent unobserved latent variables (factors).

Figure 2. Depiction of Higher-order factor model of SCS-SF



2.5 RESULTS

2.5.1 Confirmatory Factor Analyses

Preliminary analyses

Due to local administrative systems, it was not possible to obtain the number of first appointments attended across the service so level of participation could not be commented on. 323 questionnaires were returned; 26 were excluded due to missing data on the SCS-SF, which was central to the study. Table 1 outlines descriptive results. The sample was heterogeneous in age, education and employment status. Data were checked for missing items. For the CFAs there was no missing data (N=297). For the correlation analyses, Little's MCAR test revealed data was not missing at random however, on visual inspection of the data this appeared to be accounted for by the exclusion of whole scales where more than 20% of the scale was incomplete. Scales with missing data were prorated in accordance with scale author guidelines. This meant that for measures where up to 1 item per subscale was missing, but less than 20% of total scale, and where there was homogeneity within subscales, missing data was prorated with the mean for that subscale. Although internal consistency can be positively skewed by pro-rating data through mean subscale score, this method also allows for data to be included where limited items are missing. A total of 73 cases had items prorated. Factor analysis used N=297; Correlation analyses N=276.

Gender Responses

Independent samples t-test indicated a significantly higher mean scores of males (27.50, SE.67) compared with females on the SCS-SF (M=24.91, SE.57). This difference of 2.55, 95% CI [0.77-4.42] was significant, $p=.005$, 2-tailed. Additionally

males ($M=114.51$, $SE=2.36$) scored significantly lower than females ($M=123.60$, $SE=2.02$) on the DERS, $p=.005$, 95%CI $=-15.37--2.83$). There were no significant differences between males and females on HADS, CORE or TAS-20.

In addition to preliminary data screening, further examination of the SCS-SF data was carried out to establish if the data were suitable for CFAs. Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was ‘meritorious’ ($KMO=.839$) (Kaiser & Rice, 1974), suggestive of relatively compact patterns of correlations (Field, 2013 pp684). Bartlett’s Test of Sphericity was highly significant ($p<0.01$). The correlation matrix (Table 2.2) was screened for multicollinearity and singularity and no items were found to correlate $r>0.8$. Analysis indicated the data were appropriate for factor analysis (Field, 2013 pp686).

Table 2.2: Pearson's correlations for SCS-SF items.

	Q1 (OI)	Q2 (SK)	Q3 (MI)	Q4 (ISO)	Q5 (CH)	Q6 (SK)	Q7 (MI)	Q8 (ISO)	Q9 (OI)	Q10 (CH)	Q11 (SJ)	Q12 (SJ)
Q1 (OI)	1											
Q2 (SK)	.22**	1										
Q3 (MI)	.32**	.48**	1									
Q4 (ISO)	.34**	.06	.18**	1								
Q5 (CH)	.20**	.48**	.42**	.10	1							
Q6 (SK)	.24**	.29**	.45**	.14*	.29**	1						
Q7 (MI)	.19**	.23**	.37**	.06	.18**	.21**	1					
Q8 (ISO)	.53**	.23**	.20**	.38**	.12*	.13*	.07	1				
Q9 (OI)	.36**	.20**	.18**	.39**	.17**	.11	.13*	.48**	1			
Q10 (CH)	.29**	.41**	.39**	.16**	.46**	.34**	.19**	.23**	.24**	1		
Q11 (SJ)	.53**	.22**	.22**	.32**	.22**	.25**	.20**	.48**	.48**	.30**	1	
Q12 (SJ)	.43**	.30**	.25**	.23**	.21**	.16**	.18**	.34**	.33**	.26**	.60**	1

** . Correlation is significant at the 0.01 level (2-tailed). * . Correlation is significant at the 0.05 level (2-tailed). OI=Over-Identification; SK=Self-Kindness; MI=Mindfulness; ISO=Isolation; CH= Common Humanity, SJ= Self-Judgement.

Indices in bold are the correlations from the same subscale. (N=297)

Subscale scores were inter-correlated (Table 2.3) and findings were comparable with those of Raes et al (2011).

Table 2.3: Pearson's Inter-correlations for SCS-SF subscale scores.

	SK	CH	MI	SJ	OI	ISO
SK	1					
CH	.56**(.46)	1				
MI	.51**(.49)	.42**(.50)	1			
SJ	.32**(.45)	.32**(.27)	.29**(.28)	1		
OI	.29**(.43)	.32**(.31)	.31**(.40)	.60**(.63)	1	
ISO	.21**(.41)	.21**(.31)	.18**(.59)	.46**(.59)	.63**(.61)	1

** . Correlation is significant at the 0.01 level (2-tailed). Note: Values in parentheses are Raes et al (2012) findings. SK,SJ,CH,ISO,MI, and OI represent subscales of the SCS-SF: (SK= Self Kindness, SJ = Self Judgement, CH = Common Humanity, ISO, Isolation MI= Mindfulness, OI = Over Identification).

Internal consistency

Internal consistencies of the subscales revealed low Cronbach's α values, which may be related to the 2 item subscales (Cortina, 1993), although values >0.5 are acceptable in the early stages of research (Table 2.4). However, given the intra subscale correlations (Table 2.3) this may be indicative of items measuring different latent variables.

Table 2.4: Internal consistency of SCS-SF subscales and total score.

	OI	SK	MI	IO	CH	SJ	TOTAL SCS-SF
	<i>Reverse scored</i>			<i>Reverse scored</i>		<i>Reverse scored</i>	
Cronbach's α	.51 (.75)	.45 (.54)	.54 (.69)	.55 (.68)	.63 (.62)	.75 (.63)	.82 (.86)

Note: Values in parentheses are Raes et al 2012 findings. SK,SJ,CH,ISO,MI, and OI represent subscales of the SCS-SF: (SK= Self Kindness, SJ = Self Judgement, CH = Common Humanity, ISO, Isolation MI= Mindfulness, OI = Over Identification).

Test for univariate normality

Kim (2013) recommends that for medium-sized samples ($50 < n < 300$), the null hypothesis is rejected at absolute z-value over 3.29, corresponding with an alpha level 0.05. In this medium-sized sample, seven of the twelve items were positively skewed, and three displayed kurtosis ($z > 3.29$). Positive skew indicates more scores at the lower end of the SCS-SF although this might be expected in a clinical population (O'Connell, 2007). Kurtosis can present a bigger problem than skew for multivariate normality (Newsom, 2012). Three items displayed significant platykurtic kurtosis (Qs4, 8, and 9). This analysis signified the sample was not normally distributed. However, WLSMV estimation method was selected to provide polychoric correlations, as Likert scales are best treated as ordinal data especially when conducting CFAs (Holgado-Tello et al, 2008). This estimation method is also appropriate for non-normal data (Brown, 2006 pp387).

Table 2.5: CFAs of SCS-SF using robust weighted least squares (WLSMV)

Model			χ^2 model fit	<i>df</i>	χ^2/df	WRMR	RMSEA [95% CI]	CFI	TLI
Cut off for acceptability					< 3	<.1.00	≤.06	≥.96	≥.95
One-Factor: all items load onto one factor			455.41	54	8.43	1.8	.00	.83	.79
Two-factor: items load on to two factors (positive/negative SC)			119.42	53	2.25	.84	.06	.97	.97
Six-factor: Items load onto six factors			59.79	39	1.53	0.55	.04	.99	.99
Hierarchical: Six factors			349.64	48	7.28	1.54	0.000	0.872	.82

SCS-SF = Self Compassion Scale-Short Form; RMSEA = root-mean-square error of approximation; 95% CI = 95% confidence interval; CFI = comparative fit index; TLI= Tucker Lewis Index.

Table 2.5 shows the fit indices for the four SCS-SF models tested by CFA. Indices in bold signify that data satisfied cut-off criteria when rounded up or down to two decimal places and are therefore considered to be within an acceptable range (Yu, 2002). Model fit indices indicated the one-factor and hierarchical models did not fit the data well, with only the RMSEA meeting the acceptable fit criteria in these models (RMSEA =.00). The two factor model indicated overall acceptable fit to the data ($\chi^2/df=2.25$; $p<.001$; CFI=.97; TLI=.97; WRMR=.84; RMSEA = .06). The six factor model also appeared to indicate acceptable fit ($\chi^2/df=1.53$; $p<.001$; CFI=.99; TLI=.99; RMSEA=.04; WRMR=.55). However the analysis output for the six factor and hierarchical models indicated a “Heywood case”, with negative variance

identified, suggesting that there was something wrong with an aspect of the model (Chen, Curran, Bollen, Kirby, & Paxton, 2008). Heywood cases can be identified when there are less than three observed variables per latent factor (Brown, 2006). However, it may also be caused by poor model fit. Inspection of the Residual Variances on the hierarchical model revealed negative variance on the Over Identification Factor (-0.022). Further exploration of the inter-correlations between ‘paired’ subscale items was contrary to previous studies. Intra-subscale correlations ranged from weak ($r=.29$, $p<0.05$) for the self-kindness subscale items (Q2_Q6) to strong ($r=.60$, $p<0.05$) on self-judgement subscale items (Q11_Q12). In fact, some items from different subscales correlated more strongly such as (Q2_SK Q3_MI) ($r=.48$). Another strong correlation was between Q1_OI_Q11_SJ ($r=.53$). One possibility is that these items are not measuring distinct constructs proposed by the subscales but some other factor, or ability to enact self-compassionate behaviour. Whilst items were selected from the SCS for the SCS-SF to represent optimal content domain coverage rather than the highest inter-correlation (Raes et al, 2011) it is possible that those items selected may not be sensitive enough to represent the constructs for this subscale in clinical populations.

2.5.2 Correlation and Regression analyses

Assessing suitability for parametric testing

Linearity was established through visual inspection of scatterplots. Kolmogorov-Smirnov tests were carried out to examine normality of the data, with missing items listed pairwise. These tests indicated the SCS-SF was positively skewed and the DERS and CORE Total scale scores were not normally distributed. Further examination revealed negative skew for SCS-SF and positive skew for DERS and

CORE, and platykurtic kurtosis for SCS for the three measures. Subsequently, Z scores were calculated for skewness and kurtosis which indicated normal distribution for a medium size sample ($z < 3.29$) (Kim, 2013). Data were therefore considered appropriate for parametric tests, using Pearson's correlation coefficients, as considered appropriate for Likert scales (Murray, 2013). Effect sizes were based on Cohen (1992).

Pearson's Correlations

Pearson's correlations were conducted for SCS-SF with self-report measures of theoretically related constructs namely anxiety, depression, global distress, emotion regulation difficulties, and alexithymia. (Table 2.6). In line with previous studies (e.g. Garcia-Campayo et al, 2013) there was a large negative association between self-compassion and distress as measured on the HADS ($r = -.547$, $p < 0.01$) and CORE-OM ($r = -.597$, $p < 0.01$). Specifically, a medium size negative association was reported between self-compassion and anxiety as measured on the HADS Anxiety subscale ($r = -.460$, $p < 0.01$) and a large negative association between self-compassion and depression ($r = -.501$, $p < 0.01$). As predicted, Pearson's correlations revealed negative correlations between self-compassion and alexithymia ($r = -.394$, $p < 0.01$, medium effect size), and emotion dysregulation ($r = -.633$, $p < 0.01$, large effect size).

Table 2.6: Pearson's Correlations of measures

	SCS	TAS	DERS	CORE	HADS	HADS _{ANX}	HADS _{DEP}
SCS	1						
TAS	-.394**	1					
DERS	-.633**	.682**	1				
CORE	-.597**	.525**	.719**	1			
HADS	-.547**	.418**	.623**	.815**	1		
HADS _{ANX}	-.460**	.330**	.509**	.669**	.857**	1	
HADS _{DEP}	-.501**	.401**	.581**	.757**	.901**	.549**	1

** . Correlation is significant at the 0.01 level (2-tailed).

Regression Analyses

Forced entry multiple regression analyses were performed to examine the unique contribution of alexithymia, emotion regulation and self-compassion (independent predictor variables) on distress as measured on the HADS and CORE (dependent predictor variable).

Table: 2.7.1 Regression Analysis of predictors of distress

	HADS			CORE		
	b	SE B	p	b	SE B	p
DERS	.12 (.075- .171)	.025	.439 p=.001	.49 (.371 - .621)	.067	.488 p=.001
TAS-20	.01 (-.081-.100)	.045	.017 p=.799	.23 (-.050 - .515)	.124	.102 p=.100
SCS-SF	-.25 (-.378 - -.125)	.066	-.267 p=.001	-.89 (-1.249 - -.482)	.181	-.258 p=.001
Note	R ² = .428 (p <.001)			R ² = .562 (p<.001)		
95% bias corrected and accelerated confidence intervals reported in parentheses. Confidence intervals and standard errors based on 1000 bootstrap samples.						

The regression model accounted for 43% of the variance (R^2) in HADS scores, and 53% of the variance in CORE scores (Table 2.7.1). Regression analyses indicated that difficulties in emotion regulation ($\beta = .439$, $p = .001$; $\beta = .488$, $p = .001$) and low self-compassion ($\beta = .267$, $p = .001$; $\beta = -.258$, $p = .001$) were significant predictors of psychological distress as measured on HADS and on CORE respectively. Difficulties in emotion regulation were the largest contributor for variation in HADS and CORE with low self-compassion making a smaller contribution. Alexithymia was not a significant predictor to outcomes on scores on CORE or HADS.

Hierarchical regression analysis was performed to examine if self-compassion made a unique contribution to distress outcomes after emotion regulation and alexithymia were accounted for. Scores on DERS and TAS-20 were entered as independent variables in step 1 and SCS-SF scores in step two.

Table 2.7.2 Hierarchical regression model of predictors of distress as measured by HADS

Dependent Variable: HADS					
Step 1	b	SE B	p	F	p
Constant	3.26 (-1.57 - 8.15)	2.46	p=.194	82.64 3	p<.001
DERS	.17 (.135 - .208)	.02 .05	.614	p=.001	
TAS-20	.01 (-.082 - .094)		.010	p=.897	
Step 2					
Constant	15.3 (7.742 - 23.137)	3.95 .03	p=.001	65.34 9	p<.001
DERS	.123 (.074 - .172)	.05	.439	p=.001	
TAS-20	.01 (-.080 - .099)		.017	p=.799	
SCS-SF	-.25 (-.380 - -.120)	.07	-.267	p=.001	
Note	Step 1 R ² .386= (p<.001)		(p<.001)		
	Step 2 R ² = .042 (p<.001)		19.28 (p<.001)		
	95% bias corrected and accelerated confidence intervals reported in parentheses. Confidence intervals and standard errors based on 1000 bootstrap samples				

Table 2.7.3 Hierarchical regression model of predictors of distress as measured by CORE

Dependent Variable: CORE					
Step 1	b	SE B	p.	F	p
Constant	-21.77 (-37.191 - -7.101)	7.557	p=.005		
DERS	.667 (.546 - .775)	.058 .147	.66 p=.001	142.7	p<.001
TAS-20	.196 (-.077 - .477)		.09 p=.184		
Step 2				111.41	p<.001
Constant	20.062 (-2.769 - 41.691)	11.227	p=.085		
DERS	.493 (.366 - .620)	.064	.49 p=.001		
TAS-20	.227 (-.033 - .492)	.140	.10 p=.099		
SCS-SF	-.886 (-1.2 - -.539)	.183	-.26 p=.001		
Step 1 R ² = .522 (p<.001)		142.7, p<.001			
Step 2 R ² = .04 (p<.001)		, p<.001			

Results from the hierarchical regression analyses suggest that self-compassion explains 4% of the variation in distress after the variance explained by difficulties in emotion regulation and alexithymia is included.

Diagnostic statistics for regression models

Residual statistics for the regression models were examined to assess if there was any bias. Error within standardized residuals, Mean Cook's distances, and

Mahalanobis distances in both models were acceptable. Durbin-Watson statistic for the CORE model was 2.03 and for HADS was 2.16 indicating residuals were independent. VIF values were all <10 and tolerance >2 indicating absence of collinearity. Cross-validation of the model was assessed by looking at the shrinkage of the adjusted R^2 from R^2 to which was small indicating the model can be generalized across populations.

2.6 DISCUSSION

The aims of this study were two-fold. The primary aim was to examine the factor structure of the SCS-SF in a clinical sample, hitherto unexamined. The secondary aim was to explore the convergent validity of the self-compassion construct, as measured by the SCS-SF, by exploring relationships with theoretically and clinically relevant constructs, namely alexithymia and emotion regulation.

CFA of SCS-SF

The SCS-SF was proposed because of its utility in clinical settings. To the authors' knowledge, no evaluation of its properties in clinical populations had been conducted. In this study, a two factor (positive and negative) CFA model returned acceptable fit, but a one factor, six factor or hierarchical model were not supported and negative variance was identified. This is in keeping with Williams et al (2014) evaluation of the longer original SCS which found the one, six or hierarchical factor models did not adequately fit liberal cut-off criteria although the six factor model was the nearest to approaching model fit. The current sample was adequately powered, and appropriate estimation methods employed. Comparing this with Williams et al's (2014) findings in the longer version, the difficulty in identifying model fit does not appear to be a limitation imposed purely by the 'two items per latent variable' problem (Brown, 2006). Instead, it suggests that a two-factor model, more akin to Gilbert's Social Mentalities theory appeared to be supported. In other words, items such as self-kindness and common humanity may reflect aspects of a soothing attachment/affiliation system and items such as self-judgement and isolation may reflect the threat/defence system. This study raises important questions

about the operational definition of self-compassion and its place in clinical research and interventions. From a theoretical perspective, in this heterogeneous clinical sample, the SCS-SF did not measure self-compassion according to the theoretical underpinnings identified in the six factor hierarchical model proposed by Neff (2003) and Raes et al. (2011). The correlation matrix in this study found that the two ‘over identification’ scale items were more highly correlated with the ‘isolation’ item than with each other. High correlations do not necessarily indicate multicollinearity but the performance of these items merits further exploration of whether in this population, they are measuring different constructs.

Of note, in this sample the inter-correlations between subscales did not perform in the same way as the original scale. Neff’s model indicates that the presence of the three ‘positive’ features of self-compassion, and the absence of their related ‘negative’ features is what is considered to be self-compassion. In the original SCS development (Neff, 2003), strong correlations between the bipolar constructs, e.g. common humanity and isolation, led to the conceptual argument that these constructs were linked more strongly than so than the positive items versus the negative items. However in this sample, as in the SCS-SF construction sample, there were stronger inter-correlations between the positive or negative items than with their bipolar pair. Particularly evident was the strong correlation between the negative subscales, for example isolation and over identification and self-judgement and isolation in comparison with weak correlations between their proposed bipolar opposite for example, isolation and common humanity and self-judgement and self-kindness. This pattern of positive and negative correlations may suggest that in clinical populations, these previously defined concepts, such as isolation, self-

judgement and over-identification, operate as part of a threat/defence system. Gilbert, draws clear distinctions between these ‘positive’ and ‘negative’ forms of self-relating in clinical populations. He proposes that they operate through different neurophysiological processing systems of self-coldness and self-reassurance (Gilbert et al., 2014), and are critical features of psychopathology and emotion regulation respectively.

Findings from this study suggest that further exploration of the psychometric properties of the SCS-SF in clinical samples is required and may benefit from model modification or re-specification to reflect theoretically plausible alternatives (Klein, 2005, pp147). One theoretical proposal for further development of the scale for use with clinical populations might be to review items which best represent both the self-reassuring versus self-attack. Additionally, Gilbert’s (2014) work in clinical populations emphasises the importance of assessing fear of compassion from others and for the self, which is highly correlated with psychopathology. A higher order factor of self-compassion could be specified where there are more than two theoretically related first order factors so self-reassurance, self-criticism and fear of self-compassion might interact in ways to provide a clinically useful measure of overall self-compassion. Further exploration of construct of self-compassion and its role in psychopathology and its measurement will be necessary to increase scale reliability and validity. It is possible that both Neff’s and Gilbert’s models could benefit from integration.

Correlation and Regression Analyses

Given the poor model fit for the CFAs, results of the correlation analyses should be interpreted with caution. However, analyses suggested that lower self-compassion was associated with more difficulties in emotion regulation and higher levels of alexithymic difficulties, as expected. Furthermore, supporting previous findings (Garcia-Campayo et al, 2013), self-compassion was inversely associated with global mental health problems and functioning, including anxiety and depression. Regression analyses indicated that difficulties in emotion regulation and self-compassion were both significant predictors of distress as measured by CORE and HADS but alexithymia was not. The latter supports Gilbert et al's (2014) findings that alexithymia does not predict depression but the fear of positive emotional states such as fear of self-compassion may mediate the relationship. Self-compassion was found to improve the model of emotion regulation and alexithymia in predicting psychological distress. These analyses lend credibility to the convergent validity for the SCS-SF as a measure of self-compassion and suggest low self-compassion has a unique role in poor psychological wellbeing. However, longitudinal data is needed to explore the relationships further.

Trauma in childhood, insecure attachments, and cultural messages about expressing emotions have been indicated in the etiology of 'trait' alexithymia (Taylor & Bagby, 2013; Levant, Halter, Hayden, & Williams, C. M. 2009), presumably as avoidance of emotions might be an adaptive strategy in the absence of a safe space to express, explore and understand them. Recent research suggests that 'state' alexithymia may present in mental health problems as a result of overlapping features of distress such as panic disorder (Marchesi, Ossola, Tonna, & De Panfilis, 2014) and depression (Gilbert et al, 2014), or develop in response to serious illness

(Brion, Leary, & Drabkin, 2014). Encouragingly, interventions aimed at improving emotion regulation and reducing distress have resulted in reduced alexithymia (Levant et al, 2009; Chen et al, 2011; Marchesi et al, 2014), although more research into the application of suitable clinical approaches to working with alexithymia, as ‘state’ or ‘trait’ construct, is needed (Samur, Tops, Schlinkert, Quirin, Cuijpers, & Koole, 2013; Rufer, Moergeli, Moritz, Drabe, & Weidt, 2014). Gilbert and colleagues found that fears of compassion for self and from others, and fear of happiness, were highly linked to alexithymia, mindfulness, adult attachment problems, self-criticism and depression, anxiety and stress (Gilbert et al, 2012; Gilbert et al, 2014). As the SCS-SF subscales were not identified adequately in this sample, further exploration of mindfulness and over-identification subscales with alexithymia was not explored. A person’s ability to recognise emotional states as well as one’s own ability to internally regulate these states through reducing self-attacking and increasing self-reassurance may be an important component to identify before embarking on enhancing these skills. Self-compassion may be an important construct to explore further in relation to alexithymia for example its potential to improve mindful awareness of internal emotional states and a sense of connection to other people rather than isolation.

Clinical implications

CFAs suggest that the SCS-SF is not currently supported for use as a higher order model of self-compassion. However, using the SCS-SF in a binary format may be useful in identifying target areas for clinical intervention. For example, subscales measuring both positive and negative aspects of self compassion (perhaps identified as self-coldness versus self-warmth) could help clinicians identify whether they need

to focus on reducing self-criticism, or focus on building positive self-relating. In a recent meta-analysis of research into self-compassion and psychopathology, authors found that the terms compassion and self-compassion are used interchangeably in the literature and were treated as the same theoretical construct in their analysis (Macbeth & Gumley, 2012). It is important that psychometric measures such as the SCS and SCS-SF are used in a way that are valid for the population of interest, and report the construct they were designed to measure. Further research into the construct of self-compassion in psychopathology, distinct operationalization of the term for use in clinical settings, development of a theoretically and psychometrically robust measure is warranted. Furthermore, as many others have acknowledged, the SCS-SF is a self-report measure, which may be enhanced by exploring the utility of clinician or other reporter measures in assessing self-compassion (Barnard & Curry, 2011). Further research to develop the understanding about the construct of self-compassion, its correlates with psychopathology (MacBeth & Gumley, 2012) and its role in psychological therapy is recommended (Barnard & Curry, 2011).

Emotion regulation problems span diagnoses suggesting there may be trans-diagnostic opportunities for self-compassion enhancement. Specific psychopathologies characterised by self-criticism, and self-judgement, or lack of self-kindness or self-warmth such as eating disorders and self-harm may benefit from self-compassion enhancing interventions both in reducing self-attack and enhancing self-reassurance. Furthermore enhancing mindful awareness of all emotional states without judging might help people with alexithymia to recognise, understand and respond to 'positive' and 'negative' emotions. That self-compassion provided a small but unique contribution in predicting psychological distress indicated that further

understanding of the construct would be beneficial. However, as the six factor model for the SCS-SF was not supported in this study, it was not possible to explore further the predictive role of elements such as isolation, mindfulness, or self kindness on psychological distress. Interventions which explicitly promote self-compassion in clinical populations are the Mindful Self-Compassion Programme (Neff & Germer, 2013) and Compassion Focussed Therapy (Gilbert, 2006), which are beginning to develop an evidence base for improving psychological wellbeing in a range of mental health problems.

Strengths and Limitations

To the author's knowledge, this study is the first to explore the psychometric properties of the SCS-SF with a heterogeneous clinical population presenting to a clinical psychology service. In contrast to previous studies on the SCS (e.g. Neff, 2003; Raes et al, 2012), there was a significant participation from males, as well as from people who did not attend university. One limitation of this study is that it did not explore test-retest reliability. Furthermore, the cross-sectional and correlation design gives information about associations between self-compassion, emotion regulation, alexithymia, but it does not tell us anything about the direction of the relationships. Future research could look at the stability of the construct over time and the impact of self-compassion raising interventions on specific psychopathologies. Barnard and Curry (2011) suggest that gender differences in self-compassion need to be examined, not just in overall score, but within factors. CFA of male and female participants was not conducted separately due to the small numbers available but studies with larger independent male and female samples could explore whether this affects the factor structure as well as the overall score.

2.7 CONCLUSIONS

The present study supports the recent factor analysis of the longer SCS (Williams et al, 2014), and suggests that these scales currently do not meet acceptable fit criteria for a measure of self-compassion in a hierarchical model. However, acceptable model fit for a two-factor structure of ‘positive’ and ‘negative’ self-relating suggests that self-compassion in clinical populations may operate differently than in previously studied non-clinical samples. The SCS-SF correlated positively with emotion regulation skills, and negatively with psychopathology and alexithymia. Self-compassion was also a significant predictor in outcome measures of distress. This lends support to the importance of the process of self-relating, both positive and negative, in mental health. Further research into aspects of self-relating such as self-reassuring versus self-attacking may lead to a more robust understanding of the potential role of self-compassion in clinical settings.

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Appendix 1.A: Full-text studies excluded from review

Paper	Reason for exclusion
Adams, C.E & Leary, M.R. 2007 ⁶⁵	No validated measure of self-compassion
Breines, J. Toole, A., Tu, C. & Chen, S. 2014 ⁹³	Modified version of SCS
Brown, A.J. Parman, K.M., Rudat, D.A., Craighead, L.W. 2012. ⁹⁴	Validation of new ED scale
Ferreira, C et al. 2011. ⁹⁵	Validation of Body Image Q
Gale, C., Gilbert, P., Read, N. & Goss, K. 2014 ⁸⁴	No measure of self-compassion
Gale, C. Gale, C. 2012. Unpublished Thesis. ⁹⁶	Only study Three used self-compassion questionnaire and numbers too low, and mixed with qualitative analysis
Kelly, Vimlakanthan & Miller 2014 ⁹⁷	Same baseline data confirmed by author
Kelly & Vimlakanthan & Carter, 2014 ⁹⁸	Assumed population as above
Kelly & Carter 2013 ¹²	Same data plus looking at rate of improvement-confirmed by author
Loader, K.A. 2013.Unpublished Thesis ⁹⁹ .	Same population as Lockley study.
Sauer-Zavala S et al 2013 ¹⁰⁰	No body image or ED measure
Showell, L.J. 2012. University of Leicester. ¹⁰¹	Qualitative Design
Stunkard, A.J, & Wadden TA. 1992 ¹⁰²	Non empirical, no measure of SC.
Troop, N.A., et al 2014 ¹⁰³	No SC measure

Appendix 1.B: Journal Guidelines for Authors for International Journal of Eating Disorders

ORIGINALITY

The journal accepts for review manuscripts that have not been published or are not currently elsewhere under review.

CONTENT TYPES

Manuscripts published by IJED include: (1) Original Articles; (2) Brief Reports; (3) Critical analysis and Synthesis (systematic reviews and meta-analyses); (4) Commentaries; (5) Clinical Case Reports; (6) and "An Idea Worth Researching". All word limits relate to the body of the text (i.e., not including abstract, references, tables or figures). These are maximum lengths, and authors are encouraged to keep their reports as short as possible while communicating clearly. The review criteria will include appropriateness of length.

When uploading their manuscripts, authors will be asked to complete a brief checklist indicating that the authors have followed the author guidelines pertaining to the article type.

To summarize, the article types are:

(1) Original Articles reporting substantive research that is novel, definitive or complex enough to require a longer communication. Note that only a subset of research papers are expected to warrant full length format.

Word Limit: 7,000 words, excluding abstract, references, tables and figures

Abstract: 250 words

References: 40 are recommended; more are permissible, for cause

Figures/Tables: a maximum of 8 essential tables/figures, overall

The methods section should include a statement about sample selection, response rate, and other factors that would impact selection or response bias and, in turn, representativeness of the sample. Inclusion of small samples requires justification and authors should be mindful of the recommendations concerning minimal sample sizes in subfields (e.g., genetic research, instrument development, etc., where adequate samples may number in the hundreds). If the study involves qualitative data, authors need to include a statement about sample size in relation to theme saturation. Authors also are asked to provide information about reliability and validity of study measures. If the work involves cross-cultural assessment or assessment in a new language or study population, authors should provide information about local literacy in the language of assessment, the validity of (or process for validating) a translation of an assessment, and for inclusion of regional samples, a statement about the representativeness of the regional sample (or distinction from) the national sample. If statistical analyses are employed, effect size estimates should be reported in the results section.

(2) Brief Research Reports. This manuscript format is intended for

manuscripts describing studies with straightforward research designs, pilot or “proof of concept” studies, and replications.

Word Limit: 1,500 words, excluding abstract, references, tables and figures

Abstract: 200 words

References: 20 are recommended; more are permissible, for cause

Figures/Tables: a maximum of 2 essential tables/figures, overall

The methods section should include a statement about sample selection, response rate, and other factors that would impact selection or response bias and, in turn, representativeness of the sample. Inclusion of small samples requires justification and authors should be mindful of recommendations concerning minimal sample sizes in subfields (e.g., genetic research, instrument development, etc., where adequate samples may number in the hundreds). If the study involves qualitative data, authors need to include a statement about sample size in relation to theme saturation. Authors also are asked to provide information about reliability and validity of study measures. If the work involves cross-cultural assessment or assessment in a new language or study population, authors should provide information about local literacy in the language of assessment, the validity of (or process for validating) a translation of an assessment, and for inclusion of regional samples, a statement about the representativeness of the regional sample (or distinction from) the national sample. If statistical analyses are employed, effect size estimates should be reported in the results section.

(3) Critical Analysis and Synthesis/Review articles critically review the status of a given research area and propose new directions for research and/or practice. Both systematic and meta-analytic review papers are welcomed if they review a literature that is advanced and/or developed to the point of warranting a review and synthesis of existing studies. Reviews of topics with a limited number of studies are unlikely to be deemed as substantive enough for a Critical Review paper. Moreover, the journal is not interested in papers that merely describe or compile a list of previous studies without a critical synthesis of the literature that moves the field the forward.

Word Limit: 7,000 words, excluding abstract, references, tables and figures

Abstract: 250 words

References: 100

Figures/Tables: no maximum, but should be appropriate to the material covered

All review papers must follow the PRISMA guidelines (see Moher et al. (2009) below), and authors must complete and submit the [Critical Analysis and Synthesis/Review Checklist](#) upon submission of the paper. The rationale for any unchecked items on the Checklist must be explicitly described in the manuscript Cover Letter.

Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *J Clin Epidemiol* 2009; doi:10.1016/j.jclinepi.2009.06.005).

****Please note that this paper can be downloaded for free in both English and Spanish ****

(4) Commentaries are written only at the invitation of the Editors, when multiple perspectives on or critical appraisal of an article would assist in placing that article in context.

Word Limit: 800 - 1,500 words, excluding abstract, references, tables and figures

Abstract: no abstract

References: 5, using the footnote format rather than the journal's standard format

Figures/Tables: none

(5) Clinical Case Reports detail key elements of cases where there is novelty in the presentation, pathology or treatment, and where that novelty will inform clinicians and researchers about rare presentations or novel ideas. This category will often be appropriate to rare biological or psychological presentations. Every effort should be taken to ensure the anonymity of the patient concerned, and any clinicians not involved as authors. If there is any potentially identifiable information, then it is the responsibility of the authors to seek and obtain approval from the local Institutional Review Board (IRB) (or equivalent) for the case to be reported, and a copy of that approval should be made available to the Editor on request.

Word Limit: 3,000 words, excluding abstract, references, tables and figures

Abstract: 150 words

References: 20

Figures/Tables: a maximum of 2 essential tables/figures, overall

(6) "An idea Worth Researching" is a format where authors propose an idea that may not yet have adequate empirical support or be ready for full empirical testing, but holds great promise for advancing our understanding of eating disorders. Authors are encouraged to write a piece that is bold, forward looking, and suggestive of new and exciting avenues for research and/or practice in the field.

Word Limit: 1,500 words maximum, excluding abstract, references, tables and figures

Abstract: no abstract

References: 5 maximum, in footnote format

Figures/Tables: a maximum of 2 essential tables/figures, overall

PREPARATION OF MANUSCRIPT & MANUSCRIPT FORMAT

General Format

Manuscripts must be typed in English and double-spaced throughout, with margins of at least one inch at the top, bottom, and both sides of each page. All manuscripts are subject to copyediting; however, it is the primary

responsibility of the authors to proofread thoroughly and ensure correct spelling and punctuation, completeness and accuracy of references, clarity of expression, thoughtful construction of sentences, and legible appearance prior to the manuscript's submission. Preferred spelling follows Webster's New Collegiate Dictionary or Webster's Third New International Dictionary. The manuscript should conform to accepted English usage and syntax. Use headings to indicate the manuscript's general organization. Do not use a heading for the introduction. In general, manuscripts will contain one of several levels of headings. Centered upper case headings are reserved for Methods, Results, and Discussion sections of the manuscript. Subordinate headings (e.g., the Participants or Procedure subsection of Methods) are typed flush left, underlined, in upper case and lower case letters. The text begins a new paragraph. Number all pages of the manuscript except the figures (including title page and abstract) consecutively. Manuscripts that do not conform to the author guidelines stated here will be unsubmitted. Number all pages of the manuscript except the figures (including title page and abstract) consecutively. Parts of the manuscripts should be arranged in the following sequence:

(1) Title page. (numbered 1) Titles should be short and specific, conveying the main point of the article. The title page should include the full names, titles, and affiliations of all authors, and an abbreviated title (Running Head) that should not exceed 50 characters, counting letters, spacing, and punctuation. The Running Head should be typed in upper case letters centered at the bottom of the title page. Each page of the manuscript (excluding figures) should be identified by typing the first two or three words of the full title in the upper right-hand corner above the page number. No running head is required for letters to the editor. Indicate the word count for the abstract and the word count for the manuscript (excluding figures, tables, and references).

(2) Abstract. (word maximum varies by article type) For article types requiring an abstract, the abstract should be typed as a single paragraph on a separate page, numbered 2. Type the word "Abstract" in upper and lower case letters, centered at the top of page 2. Provide the following information in the form of a structured abstract, using these headings: **Objective:** briefly indicate the primary purpose of the article, or major question addressed in the study. **Method:** indicate the sources of data, give brief overview of methodology, or, if review article, how the literature was searched and articles selected for discussion. For research based articles, this section should briefly note study design, how participants were selected, and major study measures. **Results:** summarize the key findings. **Discussion:** indicate main clinical, theoretical, or research applications/implications. The *Journal* requires structured abstracts with one exception: the *Journal* will continue to use unstructured abstracts for case reports.

(3) Text. Begin the text on page 3 and be sure to identify each page with the short title typed in the upper right-hand corner above the page number. Type the full title of the manuscript centered at the top, and then begin the text. The full title appears on page 3 only. Indent all paragraphs. The maximum

length for article submissions is specified for each manuscript type. Authors are advised that content be conveyed as concisely as possible.

(4) References. Begin on separate page, with the word "References" typed in upper and lower case letters, centered at the top of the page. References must be double spaced.

(5) Appendices. Type each appendix on a separate page labeled "Appendix A, B", etc., in the order in which they are mentioned in the text.

(6) Footnotes. Start on separate page.

(7) Tables. Tables should be double-spaced, including all headings, and should have a descriptive title. If a table extends to another page, so should all titles and headings. Each table should be numbered sequentially in Arabic numerals and begin on a new page. Be sure to explain abbreviations in tables even if they have already been explained in-text. Consider the tables and figures to be self-contained and independent of the text. They should be interpretable as stand-alone entities.

(8) Figure captions. Start on separate page. Each figure caption should have a brief title that describes the entire figure without citing specific panels, followed by a description of each panel. Figure captions should be included in the submitted manuscript as a separate section. Be sure to explain abbreviations in figures even if they have already been explained in-text. Consider the tables and figures to be self-contained and independent of the text. They should be interpretable as stand-alone entities. Axes for figures must be labeled with appropriate units of measurement and description.

(9) Acknowledgements/Disclosure of Conflicts. Start on a separate page. Any possible conflict of interest, financial or otherwise, related to the submitted work must be clearly indicated in the manuscript. Acknowledge significant contributions that do not warrant authorship; list sources of support (e.g., federal, industry, or other funding).

Informed Consent The Methods section should include a statement that the research was reviewed and approved by an institutional review board, and that participation involved informed consent.

Every effort should be taken to ensure the anonymity of the patient concerned, and any clinicians not involved as authors. If there is any potentially identifiable information, then it is the responsibility of the authors to seek and obtain approval from the local Institutional Review Board (IRB) (or equivalent) for the case to be reported, and a copy of that approval should be made available to the Editor on request.

Presenting Statistical Data in Text For additional detail regarding statistical requirements for the manuscript see [IJED Statistical Formatting Requirements](#). For more detailed background information on statistical analyses and their rationale authors are referred to [IJED Statistical Reporting Guidelines](#).

References Wiley's Journal Styles Are Now in EndNote ([Wiley's Journal Styles and EndNote](#)) . EndNote is a software product that we recommend to our journal authors to help simplify and streamline the research process. Using EndNote's bibliographic management tools, you can search

bibliographic databases, build and organize your reference collection, and then instantly output your bibliography in any Wiley journal style. If you already use EndNote, you can [download the reference style](#) for this journal. To learn more about EndNote, or to purchase your own copy, [click here](#) . If you need assistance using EndNote, contact endnote@isiresearchsoft.com , or visit www.endnote.com/support

Except as noted for Commentaries, “Ideas Worth Researching” and Letters to the Editor, referencing follows the Vancouver method of reference citation. In this system, references are numbered consecutively in the order in which they are first mentioned in the text. Identify each reference in text, tables, and legends by Arabic numbers. All references cited should be listed numerically at the end of the paper. Prepare citations according to the style used in Index Medicus and the International list of periodical title word abbreviations (ISO 833).

All reference citations in the text should appear in the reference list. When there are less than seven authors, each must be listed in the citation. When seven or more authors, list the first six followed by et al. after the name of the sixth author. Representative examples are as follows:

Journal Article: 1. Endicott J, Spitzer RL. A diagnostic interview: The schedule for affective disorders and schizophrenia. Arch Gen Psychiatry 1978;35:837-844.

Book Chapter: 2. Fairburn CG, Cooper Z. The eating disorders examination (12th ed). In: Fairburn CG, Wilson GT, editors. Binge eating: nature, assessment, and treatment. New York: The Guilford Press, 1993, p. 317-331.

Book: 3. Tudor I. Learner-centeredness as language education. Cambridge: Cambridge University Press; 1996.

Preparation of figures. To ensure the highest quality print production, your figures must be submitted in TIFF format according to the following minimum resolutions:

- 1200 dpi (dots per inch) for black and white line art (simple bar graphs, charts, etc.)
- 300 dpi for halftones (black and white photographs)
- 600 dpi for combination halftones (photographs that also contain line art such as labeling or thin lines)

Vector-based figures (usually created in Adobe Illustrator) should be submitted as EPS. Do not submit figures in the following formats: JPEG, GIF, Word, Excel, Lotus1-2-3, PowerPoint, PDF.

Graphs must show an appropriate grid scale. Each axis must be labeled with both the quantity measured and the unit of measurement. Color figures must be submitted in a CMYK colorspace. Do not submit files as RGB. All color figures will be reproduced in full color in the online edition of the journal at no cost to authors. Authors are requested to pay the cost of reproducing color figures in print. Authors are encouraged to submit color illustrations that highlight the text and convey essential scientific information. For best reproduction, bright, clear colors should be used.

Supplementary materials. Supplementary materials will be made available

to readers as a link to the corresponding articles on the journal's website.

ADDITIONAL GUIDELINES FOR COPYEDITING OF MANUSCRIPTS FOR INTERNATIONAL JOURNAL OF EATING DISORDERS

1. Some authors use terms such as “anorexics” or “bulimics” as personal pronouns, referring to groups of individuals by their common diagnosis. Language of this type should be replaced with such terms as “individuals with anorexia nervosa”, “people with bulimia nervosa”, or “participants with eating disorders”.
2. The term “participants” should be used throughout the article instead of “subjects”.
3. Standard rules will continue to govern the use of capitalization in Headings and Subheadings. However, when a minor word in a Heading or Subheading actually has special or unique meaning, the rule should be overridden.
4. When referring to gender, “males” and “females” should be used in cases where the study samples include both children (below age 18) and adults; when the participants comprise adults only, the terms “men” and “women” should be used. In articles that refer to children (i.e., below the age of 13), “boys” and “girls” should be used.
5. In articles that refer to genetic material, the names of genes should be spelled out in full the first time they appear in the text, after which an italicized abbreviation can be substituted.
6. The word “data” is plural; therefore, text should follow accordingly (for example, “The data show...the data are ... the data were...”).
7. For information on how to present *p* values and other standard measurements see [IJED Statistical Formatting Requirements](#)

Appendix 2.A.1 REC Approval**Lothian NHS Board****South East Scotland Research
Ethics Committee 02**

Waverley Gate
2-4 Waterloo Place
Edinburgh
EH1 3EG
Telephone 0131 536 9000
Fax 0131 465 5789

www.nhslothian.scot.nhs.uk

Date 02 October 2013
Your Ref
Our Ref

Enquiries to: Joyce Clearie
Extension: 35674
Direct Line: 0131 465 5674
Email: Joyce.Clearie@nhslothian.scot.nhs.uk

02 October 2013

Miss Dorothy Alice Rusk
Trainee Clinical Psychologist
NHS Fife and The University of Edinburgh
Clinical Psychology Department
Lynebank Hospital
Fife
KY11 4UW

Dear Miss Rusk

Study title: An exploration of the relationship between self compassion, alexithymia and emotion regulation in a clinical population
REC reference: 13/SS/0180
Protocol number: N/A
IRAS project ID: 113217

Thank you for your letter of 02 October 2013, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair.

We plan to publish your research summary wording for the above study on the NRES website, together with your contact details, unless you expressly withhold permission to do so. Publication will be no earlier than three months from the date of this favourable opinion letter. Should you wish to provide a substitute contact point, require further information, or wish to withhold permission to publish, please contact the Co-ordinator Ms Joyce Clearie, joyce.clearie@nhslothian.scot.nhs.uk.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Ethical review of research sites

NHS sites



Headquarters
Waverley Gate, 2-4 Waterloo Place, Edinburgh EH1 3EG

Chair Mr Brian Houston
Chief Executive Tim Davison
Lothian NHS Board is the common name of Lothian Health Board



The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Non-NHS sites

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at <http://www.rforum.nhs.uk>.

Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of approvals from host organisations

Registration of Clinical Trials

All clinical trials (defined as the first four categories on the IRAS filter page) must be registered on a publically accessible database within 6 weeks of recruitment of the first participant (for medical device studies, within the timeline determined by the current registration and publication trees).

There is no requirement to separately notify the REC but you should do so at the earliest opportunity e.g when submitting an amendment. We will audit the registration details as part of the annual progress reporting process.

To ensure transparency in research, we strongly recommend that all research is registered but for non clinical trials this is not currently mandatory.

If a sponsor wishes to contest the need for registration they should contact Catherine Blewett (catherineblewett@nhs.net), the HRA does not, however, expect exceptions to be made. Guidance on where to register is provided within IRAS.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	Version	Date
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Investigator CV	CI Rusk	11 September 2013
Investigator CV	E Newman	11 September 2013
Other: Supervisor CV	Quayle	19 July 2013
Other: Merged Research Questionnaire format	1	11 September 2013
Other: Letter of Introduction to Patients	2	23 September 2013
Other: Letter of Introduction to GPs	2	23 September 2013
Other: Research questionnaire cover sheet	2	11 September 2013
Participant Information Sheet: PIS	3	16 August 2013
Protocol	1	16 August 2013
Questionnaire: CORE		
Questionnaire: HADS		
Questionnaire: WSAS		
Questionnaire: TAS-20		
Questionnaire: DERS		
Questionnaire: Short SCS-16		
REC application		11 September 2013
Response to Request for Further Information		02 October 2013

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Reporting requirements

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

Feedback

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

Further information is available at National Research Ethics Service website > After Review

13/SS/0180	Please quote this number on all correspondence
------------	--



We are pleased to welcome researchers and R & D staff at our NRES committee members' training days – see details at <http://www.hra.nhs.uk/hra-training/>

With the Committee's best wishes for the success of this project.

Yours sincerely

A handwritten signature in black ink that reads 'Russell'.

Mr Thomas Russell
Chair

Email: joyce.clearie@nhslothian.scot.nhs.uk

Enclosures: "After ethical review – guidance for researchers" [\[SL-AR2\]](#)

Copy to: Ms Marianne Laird
Dr Amanda Wood, NHS Fife

Appendix 2.A.2 REC Minor amendment**South East Scotland Research Ethics Committee 02**

Waverley Gate
2 - 4 Waterloo Place
Edinburgh
EH1 3EG
Tel: 0131 465 5674
Fax:

15 October 2013

Miss Dorothy Alice Rusk
Trainee Clinical Psychologist
NHS Fife and The University of Edinburgh
Clinical Psychology Department
Lynebank Hospital
Fife
KY11 4UW

Dear Miss Rusk

Study title: An exploration of the relationship between self compassion, alexithymia and emotion regulation in a clinical population
REC reference: 13/SS/0180
Protocol number: N/A
Amendment number:
Amendment date: 15 October 2013
IRAS project ID: 113217

Thank you for your letter of 15 October 2013, notifying the Committee of the above amendment.

The Committee does not consider this to be a "substantial amendment" as defined in the Standard Operating Procedures for Research Ethics Committees. The amendment does not therefore require an ethical opinion from the Committee and may be implemented immediately, provided that it does not affect the approval for the research given by the R&D office for the relevant NHS care organisation.

Documents received

The documents received were as follows:

Document	Version	Date
Cover Sheet	v3	11 September 2013
Notification of a Minor Amendment		15 October 2013

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for

Research Ethics Committees in the UK.

13/SS/0180:	Please quote this number on all correspondence
-------------	--

Yours sincerely



Ms Joyce Clearie
Committee Co-ordinator

E-mail: joyce.clearie@nhslothian.scot.nhs.uk

Copy to: *Dr Amanda Wood, NHS Fife*
Ms Marianne Laird

Appendix 2.A.3 REC Amendments

NHS FIFE
 PSYCHOLOGY DEPARTMENT
 Lynebank Hospital
 Halbeath Road
 Dunfermline
 Fife KY11 4UW
 Tel + Answer phone 01383 565393
 Fax 01383 565409
www.dwfchp.scot.nhs.uk/psychology
www.moodcafe.co.uk

PRIVATE & CONFIDENTIAL

South East Scotland Research Ethics Committee	Date Dictated	
Waverly Gate	Date Typed	2 October 2013
Edinburgh	Your ref	
EH1 3EG	Our Ref	AR/REC response
	Enquiries to	
	Extension	35402
	Direct Line	01383 565402
	E mail Address	alicerusk@nhs.net

Dear Mr Russell

Re: 13/SS/0180 An exploration of the relationship between self-compassion, alexithymia and emotion regulation in a clinical population

Thank you for your opinion on my proposed study. I have made the requested changes as follows:

1. Participant Information Sheet: Date/Version: PIS160813V3

The final Participant information sheet is enclosed which

- a. includes a paragraph stating that all GPs are aware of the study. The Participant Information Sheet advises potential participants that return of the research (yellow coloured) questionnaires constitutes consent and therefore there is no requirement for a consent form or bullet point on a consent form as indicated on the REC opinion letter.
- b. Minor wording changes to enhance clarity about which questionnaires should be returned have been added and highlighted.
- c. has also been amended to include the wording – *...information we get from this study **may** help improve the ...*

2. Letter of Introduction to patients: Date/Version: AR/Intro/230913/V2

A cover letter has been included from the Head of the Psychology Department to introduce the research and the researcher. This will be attached to the research study pack.

3. Letter of Introduction to GPs: Date/Version: AR/GP/230913/V2

A letter to GPs introducing the researcher, the research and the materials which participants will be sent, is provided. This will be sent by email to the practice managers to inform GPs, with PIS and Questionnaires included as attachments.

4. Research questionnaire cover sheet: Date/Version: 11/09/13 V3

The research questionnaire cover sheet has been amended as requested to remove the participant number, GP surgery, and assessing psychologist. In this way all possible personally identifiable data has been removed. The addition of the educational status was suggested by the researcher's supervisor since the original application, to monitor whether people from all socioeconomic backgrounds are participating in the study. This does not constitute identifiable information. However, if the reviewer does not wish for this to be included in the study it can be removed.

Please let me know if you require clarification, further changes or information.

Yours sincerely

Alice Rusk, Trainee Clinical Psychologist

Appendix 2.B.1 NHS R&D Approval

Miss Alice Rusk
Clinical Psychology Dept
Lynebank Hospital
Halbeath Road
DUNFERMLINE

Medical Director, Primary Care
Room 313
Hayfield House
Hayfield Road
KIRKCALDY
Fife KY2 5AH
Tel 01592 643355
www.show.scot.nhs.uk/fpct

Date 14 October 2013
Our Ref 13-042 13/SS/0180
Enquiries to Aileen Yell
Tel No 01383 623623 Ext 20940
Email aileen.yell@nhs.net

Dear Miss Rusk

Project Title: An exploration of the relationship between self-compassion, alexithymia and emotion regulation in a clinical population

Thank you for your application to carry out the above project. Your project documentation (detailed below) has been reviewed for resource and financial implications for NHS Fife and I am happy to inform you that NHS permission for the above research has been granted on the basis described in the application form, protocol and supporting documentation. The documents reviewed were:

Document	Version	Date
Protocol	1	16 August 2013
Participant Information Sheet : PIS A	2	16 August 2013
Participant Information Sheet : PIS B	2	16 August 2013
IRAS SSI Form	3.5	10 September 2013
IRAS R&D Form	3.5	11 September 2013
Cover Sheet	1	11 September 2013
Merged Research Questionnaire Format	1	11 September 2013
Questionnaires : CORE, HADS, WSAS, TAS-20, DERS, SCS		
REC provisional opinion letter		26 September 2013
REC final favourable opinion letter		2 October 2013

The terms of the approval state that you are the Principal Investigator authorised to undertake this study within NHS Fife. I note that the favourable ethical opinion applies to all NHS sites taking part in the study therefore no separate Site Specific Review is required in this case.

The sponsors for this study are the University of Edinburgh.

Details of our participation in studies will be included in annual returns we are expected to complete as part of our agreement with the Chief Scientist Office. Regular reports of the study require to be submitted. Your first report should be submitted to Dr A Wood, R&D Manager, R&D Department, Queen Margaret Hospital, Whitefield Rd, Dunfermline, KY12 0SU (Amanda.wood3@nhs.net) in 12 months time and subsequently at yearly intervals until the work is completed. A Lay Summary will also be required upon completion of the project.

In addition, approval is granted subject to the following conditions:-

SELF-COMPASSION CONSTRUCT

All research activity must comply with the standards detailed in the Research Governance Framework for Health & Community Care (<http://www.cso.scot.nhs.uk/publications/resgov/resgov.htm>), health & safety regulations, data protection principles, other appropriate statutory legislation and in accordance with Good Clinical Practice (GCP).

Any amendments which may subsequently be made to the study should also be notified to Aileen Yell, Research Governance Officer (aileenyell@nhs.net), as well as the appropriate regulatory authorities. Notification should also be given of any new research team members post approval and/or any changes to the status of the project.

This organisation is required to monitor research to ensure compliance with the Research Governance Framework and other legal and regulatory requirements. This is achieved by random audit of research. You will be required to assist with and provide information in regard to monitoring and study outcomes (including providing recruitment figures to the R&D office as and when required).

As custodian of the information collated during this research project you are responsible for ensuring the security of all personal information collected in line with NHS Scotland IT Security Policies, until the destruction of this data.

Permission is only granted for the activities for which a favourable opinion has been given by the REC (and which have been authorised by the MHRA where appropriate).

The research sponsor or the Chief Investigator or local Principal Investigator at a research site may take appropriate urgent safety measures in order to protect research participants against any immediate hazard to their health or safety. The R&D office (aileenyell@nhs.net) should be notified that such measures have been taken. The notification should also include the reasons why the measures were taken and the plan for further action. The R&D office should be notified within the same time frame of notifying the REC and any other regulatory bodies.

I would like to wish you every success with your study and look forward to receiving a summary of the findings for dissemination once the project is complete.

Yours sincerely


DR STELLA CLARK
Medical Director, Primary Care
NHS Fife

Cc : Aileen Yell, Research Governance Officer, NHS Fife, Queen Margaret Hospital, Dunfermline

Appendix 2.B.2 Letter to GP



NHS FIFE
PSYCHOLOGY DEPARTMENT
Lynebank Hospital
Halbeath Road
Dunfermline
Fife KY11 4UW
Tel + Answer phone 01383 565393
Fax 01383 565409
www.dwfchp.scot.nhs.uk/psychology
www.moodcafe.co.uk



PRIVATE & CONFIDENTIAL

Date Dictated	27/09/13
Date Typed	
Your ref	
Our Ref	AR/GP/230913/V2
Enquiries to	35402
Extension	01383 565402
Direct Line	alicerusk@nhs.net
E mail Address	

Dear Doctor

Re: Clinical Psychology Research project

This is a courtesy letter to inform you about my research project which may involve some of your patients. It does not require any follow up from you.

I am a final year Trainee Clinical Psychologist working in NHS Fife. As partial fulfilment of my Doctoral Training I am conducting research exploring the relationship between self-compassion, alexithymia and emotion regulation. This project has been approved by the Research Ethics Committee.

I will be sending questionnaires to all patients who have been referred to the adult mental health clinical psychology service. Patients who wish to take part will be asked to complete the questionnaires and return them to the psychologist they meet at their first appointment. It is not an intervention study.

I have attached the Participant Information sheet and the questionnaire for your information. If you have any further questions, please do not hesitate to contact me.

Yours sincerely

Alice Rusk

Trainee Clinical Psychologist

Project is supervised by Dr Susan McAlpine, Clinical Psychologist

Appendix 2.C.1 Study Introduction Letter

**Dunfermline & West Fife
Community Health Partnership**

**NHS FIFE
PSYCHOLOGY DEPARTMENT**
Lynebank Hospital
Halbeath Road
Dunfermline
Fife KY11 4UW
Tel + Answer phone 01383 565393
Fax 01383 565409
www.dwfchp.scot.nhs.uk/psycholog
www.moodcafe.co.uk



PRIVATE & CONFIDENTIAL

Date Dictated	
Date Typed	27 September 2013
Your ref	
Our Ref	AR/Intro/230913/V2

Enquiries to	
Extension	35402
Direct Line	01383 565402
E mail Address	

Dear Sir or Madam

Ms Alice Rusk is a final year Clinical Psychologist in Training in NHS Fife. She is carrying out a research study over the next six months as part of her training. The study hopes to find out more about how we cope with how we feel during difficult times.

We have invited all adults who have requested a psychology appointment to take part in the study. You do not have to take part and you do not have to provide a reason if you choose not to do so. Your decision will not affect the care you receive in any way.

If you **do** wish to take part in the study, please complete **all** the questionnaires you were sent with your appointment letter **as well as the yellow coloured questionnaires attached**, and give them to the psychologist you meet at your appointment.

If you **do not** want to take part in the study, **please complete the questionnaires that were attached to your appointment letter** and give them to the psychologist you meet at your appointment.

The Participant Information Sheet provides more information about the study and who you can contact if you have any questions.

Yours sincerely

**Dr Katherine Cheshire
Head of Psychology Department**

Appendix 2.C.2 Participant Information Sheet**Participant Information Sheet****A study about self-compassion, and how we understand and manage our emotions.**

We would like to invite you to take part in our research study. Before you decide, we would like you to understand why the research is being done and what it would involve for you. If you have any questions about this study not answered in this information sheet, you can contact the researcher, Alice Rusk, directly, or the psychologist who you meet at your appointment. You can talk to others about the study if you wish.

What is the purpose of the study?

The purpose of the study is to improve understanding about how we relate to ourselves under times of stress, and how we understand and manage our emotions. Previous research has shown that how we manage difficult emotions can have an effect on our mental and emotional wellbeing. Clinical psychologists conduct research to contribute to the evidence about factors affecting mental health, in order to improve therapeutic approaches. This study is being conducted as part fulfilment of the researcher's academic requirements of the Clinical Psychology Doctorate at University of Edinburgh. No one is being paid for your participation in this study.

Why have I been invited?

Invitations to participate in this study have been sent to adults over the age of 18 years who have been referred to the clinical psychology service in Fife and who have contacted us to arrange an appointment. We cannot promise the study will help you directly but the information we get from this study may help improve the treatment of people with mental health problems.

Do I have to take part?

No, you do not have to take part and you do not have to provide a reason. Your decision will not affect the standard of care you receive. **If you complete and return the attached yellow coloured questionnaire, this will be taken as your consent to participate.**

What am I being asked to do?

Taking part in this research involves completing a number of questionnaires. All people who are referred to the NHS Fife Clinical psychology service are asked to complete three questionnaires about their mental health and the way their problems are affecting them, and return these to the psychologist at their assessment appointment.

The routine psychology service questionnaires are:

1. Hospital Anxiety and Depression Scale (HADS)
2. Clinical Outcomes in Routine Evaluation (CORE)
3. Work and Social Adjustment Scale (WSAS)

Please complete these and bring to your appointment whether or not you are taking part in the study

In this study you are being asked to complete an **additional** questionnaire which is on yellow paper. The additional questionnaire should take approximately fifteen minutes to complete. You will also be asked to provide some very basic details, which will not identify you personally in any way. If you agree to take part in this study you are asked to **bring all your completed questionnaires along to your appointment.** The psychologist you see will take your questionnaires from you and forward them to the researcher directly. This will be

the only time information about you, or from you, will be required for this study and will be the end of your participation in the study.

If you do not wish to take part in the study, you are still asked to complete the three psychology service questionnaires as usual (HADS, CORE, WSAS). The researcher will not have access to these questionnaires if the additional research questionnaire is not completed.

What are the possible disadvantages and risks of taking part?

There are no risks or disadvantages identified to taking part in this study. Completion of the additional questionnaire may be inconvenient and you may have questions about some of the questionnaires, or find some of the questions upsetting. You can stop completing the additional questionnaire at any time. You can speak to the psychologist at your appointment about any questions or issues that arise for you as a result of completing the questionnaires. You should speak to your GP if your symptoms worsen. Your GP has been made aware of the study, although he or she will not know who has taken part in the study.

What if there is a problem?

If you have a concern or complaint about any aspect of this study, you should contact the researcher who will do her best to answer your questions (Alice Rusk, 01383 565402). If you would like to speak to an independent adviser who can answer questions about the study but is not directly involved in running the research you can contact - Tara Graham (Research & Service Development Psychologist), Department of Clinical Psychology Stratheden Hospital, Cupar, KY15 5RR. (01334 696336). If you remain unhappy and wish to complain formally, you can contact Dr Katherine Cheshire, Head of Clinical Psychology Department, NHS Fife (01383 565403) or Dr Ethel Quayle, Academic Tutor for the study (0131 504 698).

What will happen if I don't want to carry on with the study?

The information you provide for the research study will not identify you. Therefore, it will not be possible to remove your responses from the study should you change your mind.

Will my taking part in this study be kept confidential?

Yes. We will follow ethical and legal practice and all information about you will be handled in confidence. Information you provide for this study will not contain any personally identifiable information and therefore your participation will be confidential.

What will happen to the results of the research study?

A report of the findings will be provided to Edinburgh University, the NHS Fife Psychology Department and submitted for publication in a peer reviewed journal. If you require a copy of the report, please contact the researcher. Participants will not be identified in any way.

Who has reviewed the study?

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by the Research Ethics Committee.

Thank you

PIS160813V3

Appendix 2.C.3 Demographics and Consent



Research Questionnaire Cover Sheet

If you are taking part in the study, please complete and return this with all the questionnaires you have been given.

By returning the **yellow** questionnaires, you are agreeing to take part in the research.

This study will use your anonymised responses on the HADS, CORE and yellow questionnaires.

Your age: _____ years

Your sex (please circle): Male/ Female/ Transgender/ Prefer not to answer

Employment status (please circle):

working/ unemployed/ self employed/ student/ retired/ prefer not to answer

Highest Level of Education Completed (please circle)

Primary School/ Secondary School/ Standard Grades/ Scottish Highers/ University/ prefer not to answer.





Thank you for your participation in this study.

Appendix 2.C.4: Permission to use TAS-20**RE: permission to use TAS-20**

Graeme Taylor [graeme.taylor@utoronto.ca]

You forwarded this message on 28/07/2014 15:36.

Sent: 05 September 2013 16:36**To:** Rusk Alice (NHS FIFE)

Attachments:  -  - [\)\[Open as Web Page\];](#)  Taylor & Ba
[\)\[Open as Web Page\];](#)  Taylor & Ba
[\)\[Open as Web Page\]](#)

Dear Alice Rusk:

Thank you for payment of the copyright fee of 35 pounds for use of the TAS-20. I have attached the TAS-20 package in a pdf file. You may make as many copies as you need for your research. Also attached is a list of related references in a Word file, and a recent review article.

Best regards,

Graeme Taylor

From: Rusk Alice (NHS FIFE) [mailto:alicerusk@nhs.net] **Sent:** August-20-13 9:39 AM
To: graeme.taylor@utoronto.ca **Subject:** permission to use TAS-20

Dear Dr Taylor

I am a clinical psychology trainee in Edinburgh University. I am developing my thesis question. I am hoping to explore the relationship between self compassion, alexithymia and emotion regulation in a clinical population (primary care mental health). I would like to use the TAS-20 as part of this study and am writing to you to request permission to use it. Also, I understand that I need to pay £35 to access the questionnaires. Could you please advise how I go about ordering this and are there a set number of questionnaires in the pack or will I have permission to photocopy?

Best wishes

Alice

Alice Rusk**Specialist Psychological Practitioner**

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01383 565402**Ext:35402**www.moodcafe.co.ukalicerusk@nhs.net

Appendix 2.D: Mplus Syntax Higherorder

MPlus Syntax for Higherorder analysis of SCS-SF

Mplus VERSION 6.12 (Mac)

MUTHEN & MUTHEN

09/25/2014 1:56 PM

INPUT INSTRUCTIONS

TITLE:

Alice Rusk: Higher Order SCS

DATA:

File is /Users/alicerusk/Desktop/csvordinal24sept2.csv;

Type is individual;

NOBSERVATIONS ARE 297;

VARIABLE:

NAMES=SCS1 SCS2 SCS3 SCS4 SCS5 SCS6

SCS7 SCS8 SCS9 SCS10 SCS11 SCS12;

USEVARIABLES=SCS1 SCS2 SCS3 SCS4 SCS5 SCS6

SCS7 SCS8 SCS9 SCS10 SCS11 SCS12;

CATEGORICAL ARE SCS1-SCS12;

ANALYSIS:ESTIMATOR=WLSMV;

MODEL:

SK BY SCS2 SCS6;

OI BY SCS1 SCS9;

MI BY SCS3 SCS7;

ISO BY SCS4 SCS8;

CH BY SCS5 SCS10;

SJ BY SCS11 SCS12;

SC BY SK OI MI ISO CH SJ;

OUTPUT: sampstat modindices (10.00); STAND RESIDUAL; Tech4;

INPUT READING TERMINATED NORMALLY

Appendix 2.E: Guideline for Authors for Journal Submission

Psychological Assessment[®] Author Guidelines

Instructions to Authors

Prior to submission, please carefully read and follow the submission guidelines detailed below. Manuscripts that do not conform to the submission guidelines may be returned without review.

Submission

Manuscripts concerned with the development of a new assessment instrument should include a copy of the instrument.

In general, manuscripts should be no longer than 40 pages (this includes all elements of the manuscript, with the exception of any supplemental material).

Submit manuscripts electronically through the [Manuscript Submission Portal](#).



General correspondence may be directed to the [Editor's Office](#).

Masked Review

This journal has adopted a masked review policy for all submissions. Authors should make every effort to ensure that the manuscript itself contains no clues to their identities. Authors' names and affiliations should not appear in the manuscript. Instead, please include this information in just the cover letter.

Please ensure that the final version for production includes a byline and full author note for typesetting.

Brief Reports

Psychological Assessment will review brief reports of research studies in clinical assessment. The procedure is intended to permit the publication of carefully designed studies with a narrow focus or of specialized interest.

An author who submits a brief report must agree not to submit the full report to another journal of general circulation. The brief report should give a clear, condensed summary of the procedure of the study and as full an account of the results as space permits.

The brief report should be limited to 19 manuscript pages (1" margins, size 12 font). This includes the title page, abstract, author note, text, reference list, and any footnotes, tables, and figures. The number of tables and figures should be limited.

The author is encouraged to limit the number of headings within the brief report and to combine headings whenever possible. For example, the Results and Discussion sections can be combined. Also, subheadings under the Method section can often be omitted.

Authors are encouraged but not required to have available an extended report. If one is available, the author note of the brief report should include the following

statement:

Correspondence concerning this article (and requests for an extended report of this study) should be addressed to [give the author's full name and address].

Research on Translations of Tests

Psychological Assessment rarely publishes in print psychometric studies of translations of tests unless the papers also address some conceptual or methodological issue of broader interest to clinical assessment.

However, we have a special **online only publishing option** for such Research on Translations of Tests articles. With this option, manuscripts undergo our normal review process and are held to the same standards of review as all other submissions to the journal, but, if accepted, they would **not** appear in the print version of the journal but rather online only.

Studies appropriate for this option must have a focus consistent with the editorial scope of the journal, which emphasizes clinical assessment research.

These articles would be listed in all Tables of Contents (online and print), would be clearly identified as published "Online Only," and the DOI identifier would be included in the Table of Contents. Also, full text copies of the translated tests would go into PsycTESTS.

Translations of commercially published tests are not eligible for review in this category because, in addition to copyright constraints, such translations are not consistent with the goals of our Research on Translations of Tests program or PsycTESTS. Translations of single scales are also not eligible.

Authors wishing to submit manuscripts in this category should select the "Research on Translations of Tests" article type when submitting their manuscript.

Manuscript Preparation

Prepare manuscripts according to the *Publication Manual of the American Psychological Association* (6th edition). Manuscripts may be copyedited for bias-free language (see Chapter 3 of the *Publication Manual*).

Review APA's [Checklist for Manuscript Submission](#) before submitting your article.

Double-space all copy. Other formatting instructions, as well as instructions on preparing tables, figures, references, metrics, and abstracts, appear in the *Manual*.

Below are additional instructions regarding the preparation of display equations, computer code, and tables.

Display Equations

We strongly encourage you to use MathType (third-party software) or Equation Editor 3.0 (built into pre-2007 versions of Word) to construct your equations, rather than the equation support that is built into Word 2007 and Word 2010. Equations composed with the built-in Word 2007/Word 2010 equation support are converted to low-resolution graphics when they enter the production process and must be rekeyed by the typesetter, which may introduce errors.

To construct your equations with MathType or Equation Editor 3.0:

Go to the Text section of the Insert tab and select Object.

Select MathType or Equation Editor 3.0 in the drop-down menu.

If you have an equation that has already been produced using Microsoft Word 2007 or 2010 and you have access to the full version of MathType 6.5 or later, you can convert this equation to MathType by clicking on MathType Insert Equation. Copy the equation from Microsoft Word and paste it into the MathType box. Verify that your equation is correct, click File, and then click Update. Your equation has now been inserted into your Word file as a MathType Equation.

Use Equation Editor 3.0 or MathType only for equations or for formulas that cannot be produced as Word text using the Times or Symbol font.

Computer Code

Because altering computer code in any way (e.g., indents, line spacing, line breaks, page breaks) during the typesetting process could alter its meaning, we treat computer code differently from the rest of your article in our production process. To that end, we request separate files for computer code.

In Online Supplemental Material

We request that runnable source code be included as supplemental material to the article. For more information, visit [Supplementing Your Article With Online Material](#).

In the Text of the Article

If you would like to include code in the text of your published manuscript, please submit a separate file with your code exactly as you want it to appear, using Courier New font with a type size of 8 points. We will make an image of each segment of code in your article that exceeds 40 characters in length. (Shorter snippets of code that appear in text will be typeset in Courier New and run in with the rest of the text.) If an appendix contains a mix of code and explanatory text, please submit a file that contains the entire appendix, with the code keyed in 8-point Courier New.

Tables

Use Word's Insert Table function when you create tables. Using spaces or tabs in your table will create problems when the table is typeset and may result in errors.

Submitting Supplemental Materials

APA can place supplemental materials online, available via the published article in the PsycARTICLES® database. Please see [Supplementing Your Article With Online Material](#) for more details.

Abstract and Keywords

All manuscripts must include an abstract containing a maximum of 250 words typed on a separate page. After the abstract, please supply up to five keywords or brief phrases.

References

List references in alphabetical order. Each listed reference should be cited in text, and each text citation should be listed in the References section.

Examples of basic reference formats:

Journal Article:

Hughes, G., Desantis, A., & Waszak, F. (2013). Mechanisms of intentional binding and sensory attenuation: The role of temporal prediction, temporal control, identity prediction, and motor prediction. *Psychological Bulletin*, 139, 133–151. <http://dx.doi.org/10.1037/a0028566>

Authored Book:

Rogers, T. T., & McClelland, J. L. (2004). *Semantic cognition: A parallel distributed processing approach*. Cambridge, MA: MIT Press.

Chapter in an Edited Book:

Gill, M. J., & Sypher, B. D. (2009). Workplace incivility and organizational trust. In P. Lutgen-Sandvik & B. D. Sypher (Eds.), *Destructive organizational communication: Processes, consequences, and constructive ways of organizing* (pp. 53–73). New York, NY: Taylor & Francis.

Figures

Graphics files are welcome if supplied as Tiff or EPS files. Multipanel figures (i.e., figures with parts labeled a, b, c, d, etc.) should be assembled into one file.

The minimum line weight for line art is 0.5 point for optimal printing.

For more information about acceptable resolutions, fonts, sizing, and other figure issues, [please see the general guidelines](#).

When possible, please place symbol legends below the figure instead of to the side.

APA offers authors the option to publish their figures online in color without the costs associated with print publication of color figures.

The same caption will appear on both the online (color) and print (black and white) versions. To ensure that the figure can be understood in both formats, authors should add alternative wording (e.g., "the red (dark gray) bars represent") as needed.

For authors who prefer their figures to be published in color both in print and online, original color figures can be printed in color at the editor's and publisher's discretion provided the author agrees to pay:

\$900 for one figure

An additional \$600 for the second figure

An additional \$450 for each subsequent figure

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Ethical Principles

It is a violation of APA Ethical Principles to publish "as original data, data that have been previously published" (Standard 8.13).

In addition, APA Ethical Principles specify that "after research results are published, psychologists do not withhold the data on which their conclusions are based from other competent professionals who seek to verify the substantive claims through reanalysis and who intend to use such data only for that purpose, provided that the confidentiality of the participants can be protected and unless legal rights concerning proprietary data preclude their release" (Standard 8.14).

APA expects authors to adhere to these standards. Specifically, APA expects authors to have their data available throughout the editorial review process and for at least 5 years after the date of publication.

Authors are required to state in writing that they have complied with APA ethical standards in the treatment of their sample, human or animal, or to describe the details of treatment.

[Download Certification of Compliance With APA Ethical Principles Form \(PDF, 26KB\)](#)

The APA Ethics Office provides the full [Ethical Principles of Psychologists and Code of Conduct](#) electronically on its website in HTML, PDF, and Word format. You may also request a copy by [emailing](#) or calling the APA Ethics Office (202-336-5930). You may also read "Ethical Principles," December 1992, *American Psychologist*, Vol. 47, pp. 1597–1611.

FULL THESIS REFERENCES BPS FORMAT

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